

9

# CANADIAN GEOGRAPHICAL JOURNAL

UNIVERSITY  
OF MICHIGAN

AUG 25 1954

PERIODICAL  
READING ROOM





## THE CANADIAN GEOGRAPHICAL SOCIETY

OTTAWA, CANADA



### HONORARY PATRON

HIS EXCELLENCY THE RIGHT HONOURABLE VINCENT MASSEY, C.H.

### HONORARY PRESIDENTS

CHARLES CAMSELL, C.M.G., LL.D., B.A. J. B. TYRRELL, M.A., LL.D., F.G.S.  
CHARLES G. COWAN

### BOARD OF DIRECTORS

Air Marshal ROBERT LECKIE, President

Dr. C. J. MACKENZIE, Vice-President  
Gen. A. G. L. McNAUGHTON, Vice-President  
Dr. R. C. WALLACE, Vice-President

Mr. J. A. WILSON, Vice-President  
Mr. GORDON F. MACLAREN, Honorary Counsel  
Mr. K. G. CHIPMAN, Honorary Treasurer

Mr. E. S. MARTINDALE, Honorary Secretary

Hon. A. E. ARSENAULT, Charlottetown, P.E.I.  
Dr. MARIUS BARBEAU, Ottawa  
Dr. ARTHUR BEAUCHESNE, Ottawa  
Dr. BENOIT BROUILLETTE, University of Montreal,  
Montreal, Que.  
Mr. D. M. COOLICAN, Canadian Bank Note Company,  
Ottawa  
Col. A. F. DUGUID, Ottawa  
Maj.-Gen. W. W. FOSTER, Victoria, B.C.  
Vice-Admiral H. T. W. GRANT, Ottawa  
Mr. K. A. GREENE, Ottawa  
Maj.-Gen. HOWARD KENNEDY, Ottawa  
Mr. GILBERT LABINE, Toronto, Ont.  
Dr. B. R. MacKAY, Ottawa

Mr. T. H. MANNING, Ottawa  
Lt.-Col. SIDNEY C. OLAND, Halifax, N.S.  
Mr. C. S. RILEY, Winnipeg, Man.  
Dr. H. J. ROWLEY, Resources Development Board,  
Fredericton, N.B.  
Mr. V. W. SCULLY, Steel Company of Canada Limited,  
Hamilton, Ont.  
Sir ALBERT WALSH, Chief Justice, St. John's,  
Newfoundland  
Dr. J. W. WATSON, Director, Geographical Branch,  
Ottawa  
Prof. J. T. WILSON, University of Toronto, Toronto, Ont.  
Maj.-Gen. H. A. YOUNG, Deputy Minister,  
Department of Public Works, Ottawa

### Executive-Secretary and Editor of Publications

GORDON M. DALLYN

### Editorial Committee

W. EGGLESTON, Ottawa, Chairman H. L. TRUEMAN, Ottawa, Vice-Chairman  
MALVINA BOLUS, Ottawa, Secretary

Dr. F. J. ALCOCK, Ottawa  
Dr. GEORGE W. BROWN, Toronto  
Mr. H. LESLIE BROWN, Ottawa  
Mr. J. W. CHURCHMAN, Regina  
Dr. PIERRE DAGENAIS, Montreal  
Mr. G. M. DALLYN, Ottawa  
Dr. G. V. DOUGLAS, Halifax  
Dr. G. A. FRECKER, St. John's, Nfld.

Dr. F. KENNETH HARE, Montreal  
Dr. M. E. LaZERTE, Edmonton  
Dr. R. O. MacFARLANE, Ottawa  
Mr. I. S. McARTHUR, Ottawa  
Abbé ARTHUR MAHEUX, Quebec  
Mr. OLIVER MASTER, Ottawa  
Mr. T. F. M. NEWTON, Ottawa  
Dr. D. F. PUTNAM, Toronto

Mr. B. T. RICHARDSON, Toronto  
Dr. J. E. ROBBINS, Ottawa  
Dr. LLOYD W. SHAW, Charlottetown  
Mr. R. J. C. STEAD, Ottawa  
Mr. D. M. STEPHENS, Winnipeg  
Dr. J. W. WATSON, Ottawa  
Dr. M. Y. WILLIAMS, Vancouver

Auditors: Davis, Bishop & Company, Chartered Accountants



The Society's ambition is to make itself a real force in advancing geographical knowledge, and in disseminating information on the geography, resources and people of Canada. In short, its aim is to make Canada better known to Canadians and to the rest of the world.

As one of its major activities in carrying out its purpose, the Society publishes a monthly magazine, the Canadian Geographical Journal, which is devoted to every phase of geography — historical, physical and economic — of Canada, of the British Commonwealth and of the other parts of the world. It is the intention to publish articles in this magazine that will be popular in

character, easily read, well illustrated, and informative.

The Canadian Geographical Journal will be sent to each member of the Society in good standing. Membership in the Society is open to any one interested in geographical matters. The annual fee for membership is four dollars (Canadian currency).

The Society has no political or other sectional associations, and is responsible only to its members. All money received is used in producing the Canadian Geographical Journal and in carrying on such other activities for the advancement of geographical knowledge as funds of the Society may permit.

# CANADIAN GEOGRAPHICAL JOURNAL

Published monthly by  
THE CANADIAN GEOGRAPHICAL SOCIETY  
Ottawa, Ontario

Editor - GORDON M. DALLYN — Assistant Editor - MALVINA BOLUS

This magazine is dedicated to the presentation in authentic and popular form, with extensive illustrations, of the broad pattern of Canadian life and its industrial, physical, and cultural foundations.



The articles in this Journal are indexed in the *Canadian Index* which may be found in any public library.

The British standard of spelling is adopted substantially as used by the Government of Canada and taught in most Canadian schools, the precise authority being the Concise Oxford Dictionary, fourth edition, 1951.

Address all communications regarding change of address, non-delivery of Journal, etc., to the publication office, 1000 St. Antoine St., Montreal 3, Canada, giving old and new address. On all new memberships, the expiry date will be printed on wrapper containing starting number. This will constitute a receipt for subscription.

Membership dues of The Canadian Geographical Society, which include postpaid delivery of the Journal, are \$4.00 per year in any country, payable at par in Ottawa.

Member Audit Bureau of Circulations

SPECIAL REPRESENTATIVES:

Ontario and Quebec: F. A. DALLYN  
and W. F. P. MacRAE\*

\*Head Office: Ottawa—54 Park Ave.  
(Tel. 2-8032)

Montreal office — 1000 St. Antoine  
Street (Tel. UN. 6-5285).

Toronto office — 21 King Street, E.

Europe: S/L W. H. CORKILL, M. B. E.,  
The Mead, West Dumpton Lane, Ramsgate, Kent, England.

## CONTENTS

AUGUST, 1954 + VOLUME XLIX + NUMBER 2

COVER SUBJECT:—*The cedar waxwing nests late, in August or September, when berries are plentiful.*

Colour photograph by W. V. Crich

	Page
THE STIKINE RIVER . . . . .	48
by LYN HARRINGTON	
HOW THE FOLK SONGS OF FRENCH CANADA WERE DISCOVERED . . . . .	58
by MARIUS BARBEAU	
BUILDING A BUSINESS FROM THE AIR . . . . .	66
by J. A. WARBURTON	
MAGIC OF PURBECK . . . . .	76
by DIM PARES	
SYMBOL OF SOVEREIGNTY . . . . .	82
by W. T. LARMOUR	
CHARLES CAMSELL . . . . .	87
by F. J. ALCOCK	
EDITOR'S NOTE-BOOK . . . . .	V
AMONGST THE NEW BOOKS . . . . .	VI



CONTENTS OF THIS JOURNAL ARE COPYRIGHT

AUTHORIZED AS SECOND CLASS MAIL, POST OFFICE DEPARTMENT, OTTAWA

PRINTED IN CANADA







*The Judith Ann takes on freight at Wrangell, where the tide is just coming in.*

## **The Stikine River**

by  
LYN  
HARRINGTON

*Photographs by*  
RICHARD  
HARRINGTON

**C**ANADIAN RIVERS were once the shining highways of commerce and transportation. Today, car and aeroplane have outmoded all but a few. The Stikine River in northern British Columbia, still serves as a highway from the Pacific to the interior. A single riverboat plies the 168 miles of navigable water. A road will some day penetrate the heavily mineralized Cassiar Mountains, probably starting at the seaport of Stewart, B.C. Then the *Judith Ann* out of Wrangell, Alaska (successor to the famous *Hazell B II*), will cease operations.

The Stikine River rises in Mount Gunanoot, and carves its way through the Cassiar Mountains, gathering the waters of the Klappan and Iskut Rivers. A roaring silt-laden stream, it churns through the 68-mile Grand Canyon of the Stikine. South Fork comes in at Telegraph Creek, and innumerable other glacier-fed creeks add their waters as the Stikine swirls through the Coast Range, across the Alaskan Panhandle to the Pacific Ocean.

Although the main stream is some 450 miles

in length, it is a lonesome river. The only settlements are Wrangell at the mouth and Telegraph Creek at the head of navigation, with a few trappers' cabins and one outfitter's ranch in between.

The Alaskan port of Wrangell seems small but brisk to the visitor. On return from the interior, it seems like a metropolis with its modern shops, well-kept public buildings and comfortable homes. Its most arresting feature is the totem pole park on Shakes Island in the inner harbour. The reconstructed communal house and poles are interesting, as is Chief Shakes' grave, and the poles standing in the original setting about town.

The flat-bottomed riverboat, *Judith Ann*, takes advantage of full tide to cross the sand bars at the mouth of the river. From there to almost the end of the journey, there is not a sign of human life. The scenery, however, is magnificent. The broad tawny river winds in immense curves through the Coast Mountains, where the trees are draped in moss, due to heavy rainfall. Peaks sweep up to nearly



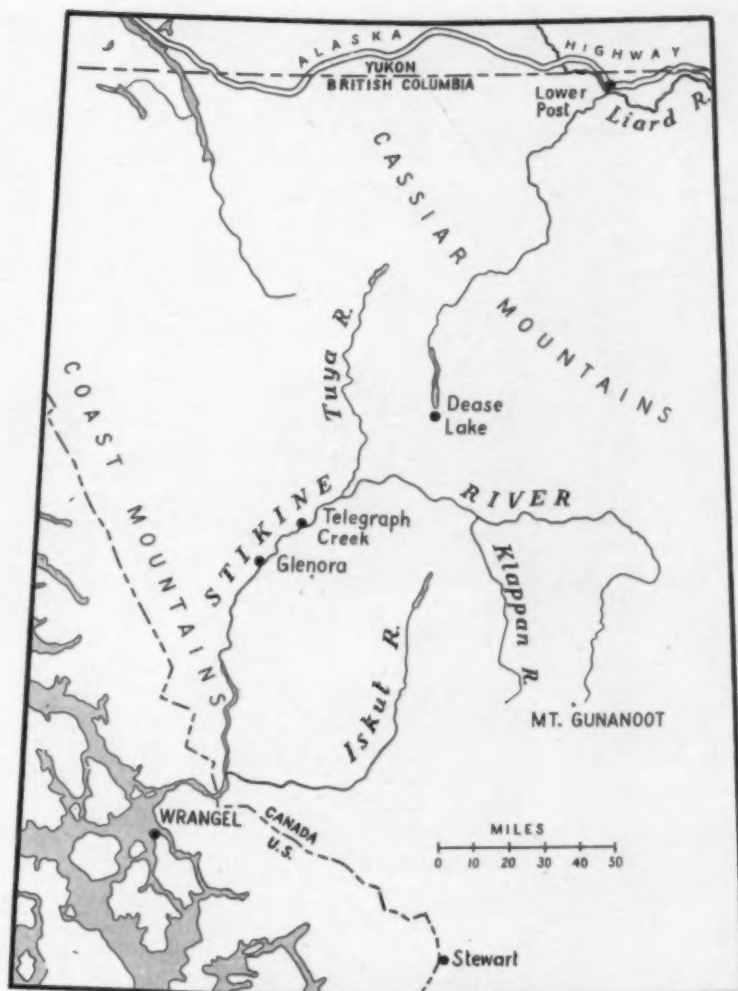
10,000 feet, crowned with eternal ice and snow. Glaciers reach down almost to the water's edge.

The boundary between Alaska and British Columbia is marked by a swath cut through the forest, the scar soaring up over the hills. Sand bars lurk just below the surface of the roiled water, and gravel bars rise to create new channels. The river boat moors alongside some gravel bar throughout the night. The skipper must know the channel thoroughly, and the crew must often sound the bottom to be sure of enough water. Even so, the hull scrapes at times.

The river is not marked with aids to navigation, since they would be useless almost as fast as they were put in place. However, a snag-man is employed to blast dangerous debris out of the main channel of the river, which, like most glacial streams, constantly creates new channels for itself.

Formerly many seals could be seen lounging on the sand bars, as much as 124 miles from salt water. The recent activity of Alaska government hunters has reduced their numbers, until it is a novelty to see three or four in the course of the journey. Bald-headed northern eagles are numerous, a few ravens, but not many other birds.

Occasionally a black or grizzly bear may pause in scooping up salmon to listen to the throb of the diesel motor. Or a moose may



raise its dripping muzzle, wet with grubbing for aquatic plants, to peer at the boat with short-sighted eyes. The Cassiars are the home of the Stone sheep, the Fannin and some Dall sheep, and early in the season, as many as eighty-four have been seen at one time on Glenora Mountain.

On its journey upriver, the boat climbs 600 feet. At times, the current in mile-long Little Canyon is too powerful; the *Judith Ann* must wait until the water drops, or be crushed against the basaltic walls. In some of the heavy rapids, such as Glenora Riffle or Buck's Bar, the river boat always needs assistance. It may require a thrust from the stern, supplied by a powerful outboard motorboat. Or the riverman may carry a steel cable up through the rapids, and anchor it around some stout mooring post. Then the river boat winches the cable over its drum, and slowly pulls itself up through the current. The journey upstream usually takes two-and-a-half days, or longer if pushing a loaded barge. The trip downstream is done in

*A "ridicule" pole on Shakes Island at Wrangell, Alaska, tells the story of a feud between two families.*





*Travelling through the Coast Mountains, passengers enjoy a thin sunlight through the mist.*

a day. In low water, navigation stops below Glenora Riffle, where passengers and freight are transferred to trucks for the twelve-mile ride to Telegraph Creek.

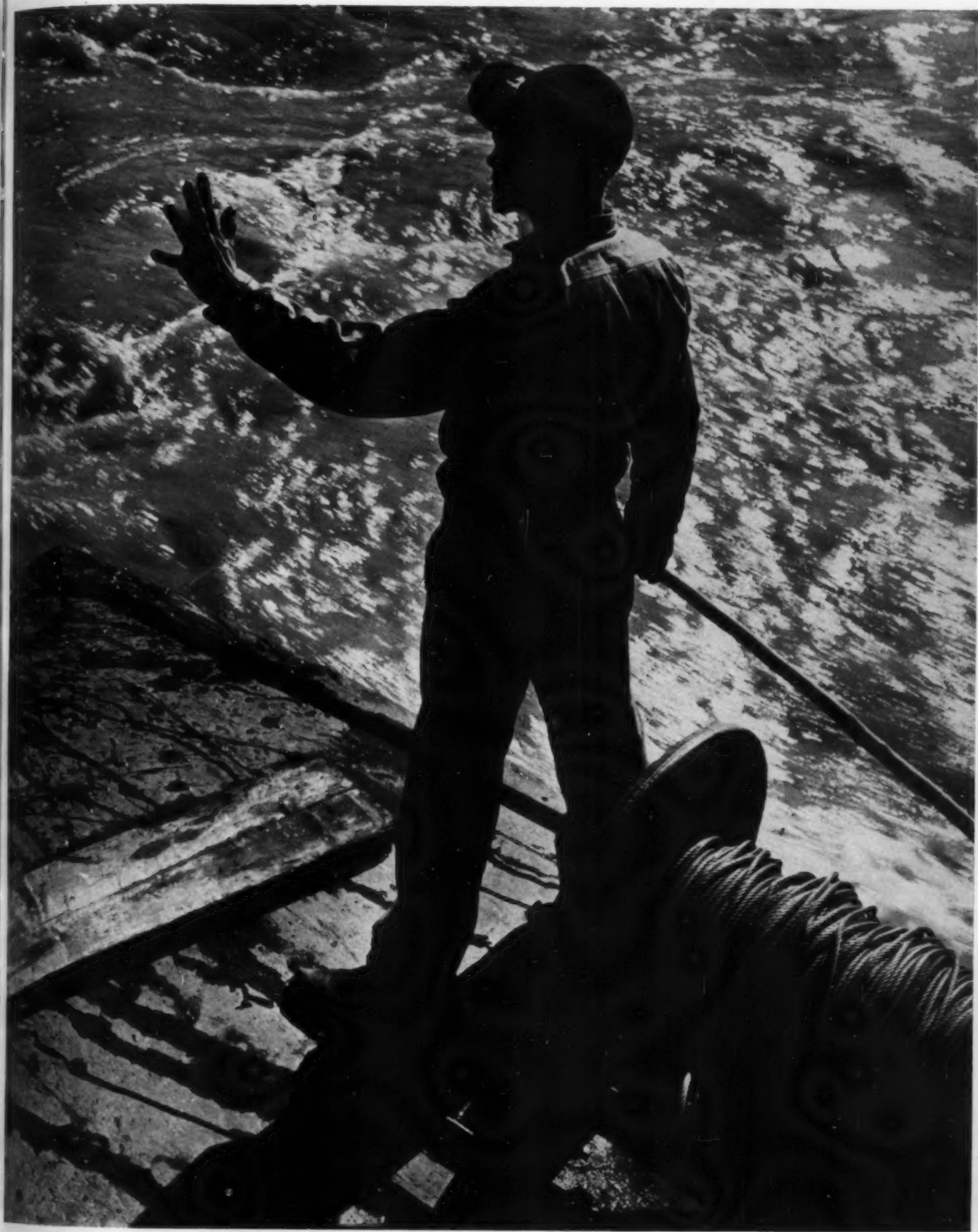
During the Gold Rush of '98, the Stikine River was one route for reaching the Klondike and avoiding the infamous Chilkoot Pass. From Wrangell, eighteen or twenty river boats hauled miners and their supplies up the Stikine to Glenora. There the argonauts camped before striking off cross-country to Teslin Lake and the Yukon River. The tent town of Glenora flourished, with a population of 8,000 in 1899. A few wooden buildings were erected, including warehouses, stores and a jail. The latter was torn down only recently, and a single shack remains.

Railroad builders of the west, Mackenzie and

Mann, considered this a natural route to the Yukon. They had four miles of grading finished when they learnt that the White Pass-Yukon Railroad was begun. That route was more direct, and the Stikine project was abandoned.

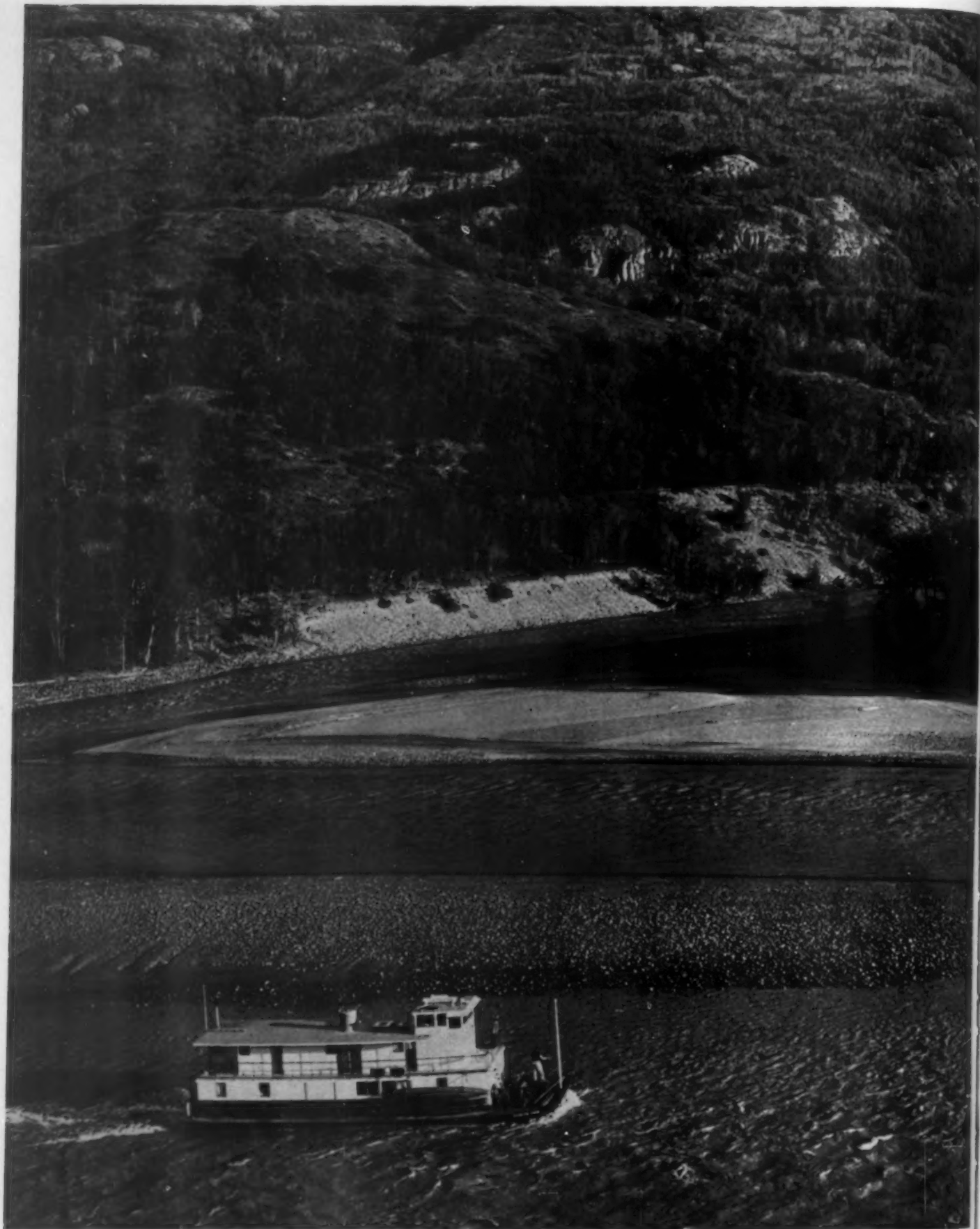
The grading can still be seen on Hudson's Bay Flats. The Mackenzie and Mann warehouse was purchased by a big-game outfitter, and turned into a charming guest ranch on the opposite shore. The Hudson's Bay Company, after a time, cut its store in half, and had the two sections hauled upriver to Telegraph Creek one winter.

The country around Telegraph Creek is parkland, with spruce, cottonwood poplar, and alder. Bunch-grass and juniper grow on the dry river benches. Range horses can rustle for



*The deckman signals the depth of the water he has just measured.*





*The Judith Ann winches herself up through the Glenora Riffle, about 12 miles below Telegraph Creek.*

*This post of the Hudson's Bay Company at Telegraph Creek outfits big-game hunters with horses and guides, and bulky provisions. The supplies must go into the pack-boxes, each pair of which must balance throughout the trip.*



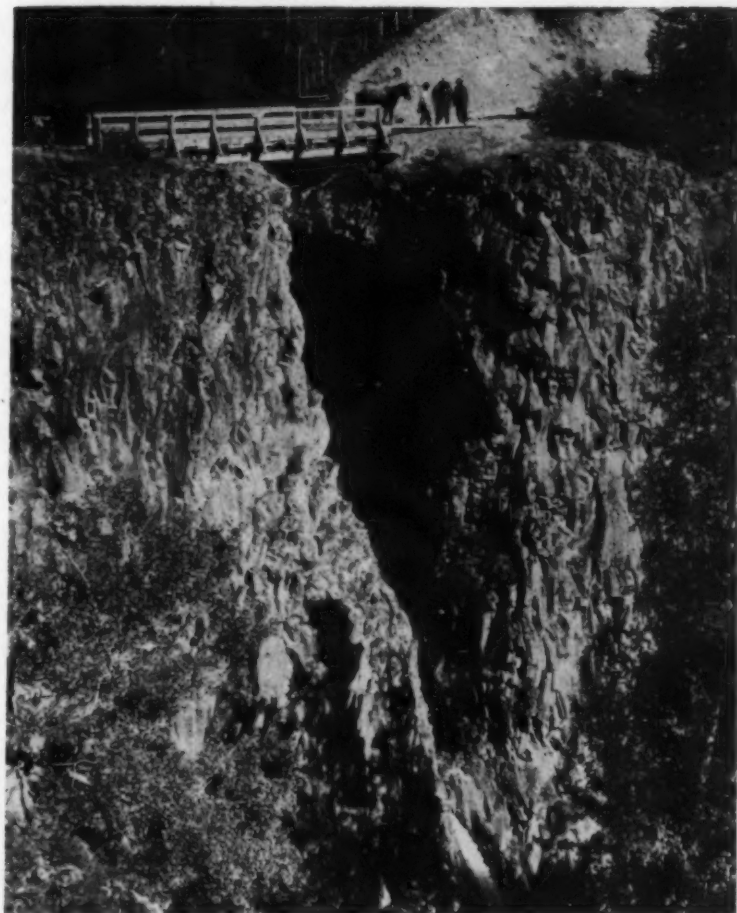
*The road out of Telegraph Creek rises swiftly, and crosses the creek above the village. The waterfall is well below the bridge.*

themselves throughout the winter, and it is potentially great cattle-country when markets warrant.

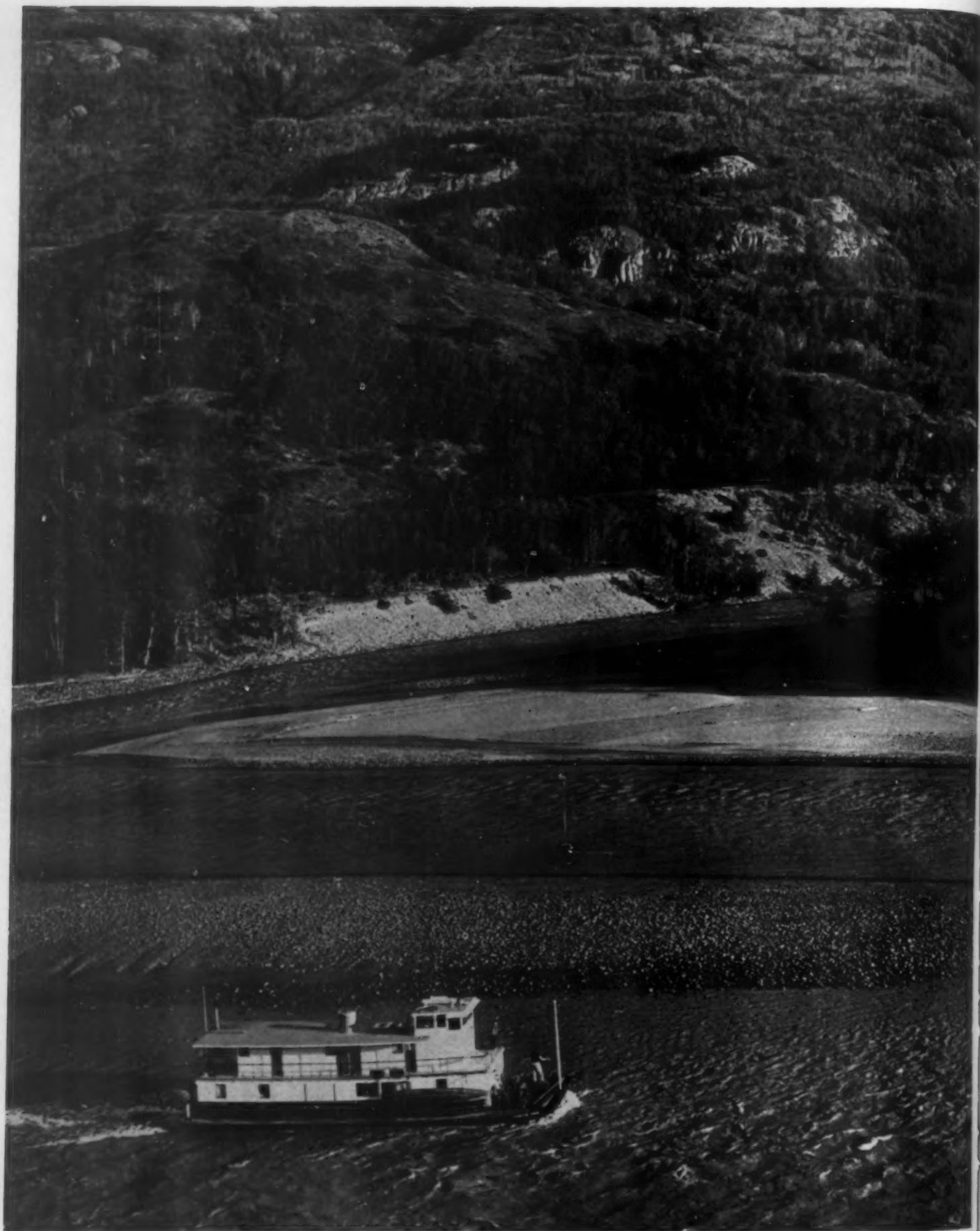
The weekly visit of the river boat from May to October is welcomed by the isolated residents of Telegraph Creek, since it brings mail, supplies and visitors. Later in summer, it brings in big game hunters. Some, however, fly in by charter plane and land on the river in front of the village.

Telegraph Creek, with a population of about 300, is piled up on the river benches, with the old Indian graveyard on the second last terrace, and the public school on top, 500 feet above the river. The village takes its name from the crystal-clear creek which hurtles down through the centre of the settlement, and from the fact that it was one of the stations on the B.C.-Yukon Telegraph line,\* until its dismantling some twenty years ago.

The village was important as a terminal until the building of the Alaska Highway. All the interior Hudson's Bay Company posts in the vicinity were supplied from the Stikine. Pack-horses carried goods over the trails to Dease Lake and Lower Post and other posts along the Liard River. When the airfield at Watson Lake was under construction, before completion



\* See Yukon Telegraph Line by Diamond Jenness, Canadian Geographical Journal, December, 1930



*The Judith Ann winches herself up through the Glenora Riffle, about 12 miles below Telegraph Creek.*



*This post of the Hudson's Bay Company at Telegraph Creek outfits big-game hunters with horses and guides, and bulky provisions. The supplies must go into the pack-boxes, each pair of which must balance throughout the trip.*



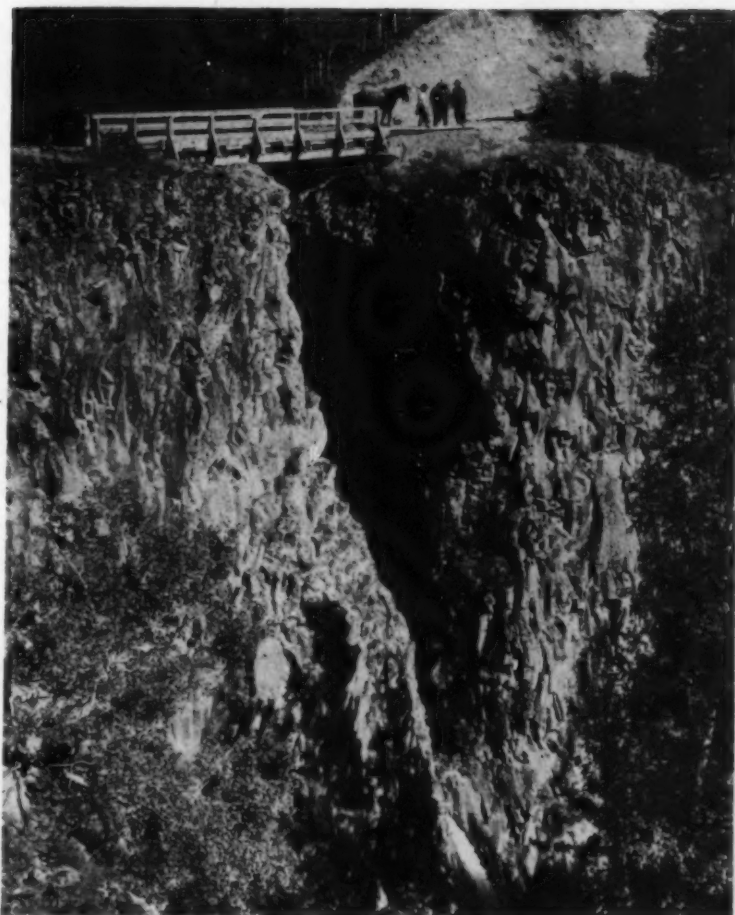
*The road out of Telegraph Creek rises swiftly, and crosses the creek above the village. The waterfall is well below the bridge.*

themselves throughout the winter, and it is potentially great cattle-country when markets warrant.

The weekly visit of the river boat from May to October is welcomed by the isolated residents of Telegraph Creek, since it brings mail, supplies and visitors. Later in summer, it brings in big game hunters. Some, however, fly in by charter plane and land on the river in front of the village.

Telegraph Creek, with a population of about 300, is piled up on the river benches, with the old Indian graveyard on the second last terrace, and the public school on top, 500 feet above the river. The village takes its name from the crystal-clear creek which hurtles down through the centre of the settlement, and from the fact that it was one of the stations on the B.C.-Yukon Telegraph line,\* until its dismantling some twenty years ago.

The village was important as a terminal until the building of the Alaska Highway. All the interior Hudson's Bay Company posts in the vicinity were supplied from the Stikine. Pack-horses carried goods over the trails to Dease Lake and Lower Post and other posts along the Liard River. When the airfield at Watson Lake was under construction, before completion



\* See Yukon Telegraph Line by Diamond Jenness, Canadian Geographical Journal, December, 1930

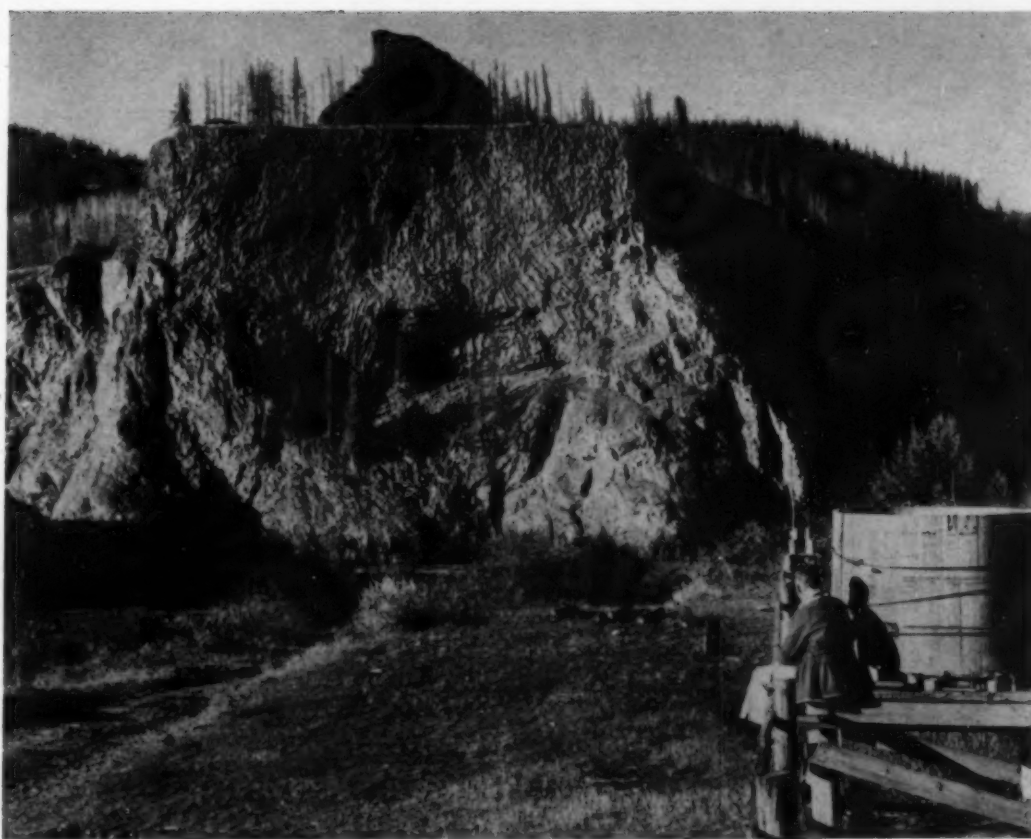


*Telegraph Creek, 168 miles from Wrangell and 600 feet higher, is piled up on the river benches like toys on steps. The Creek itself, centre foreground, bisects the village.*

*The old village of Tahltan was on top of this rock, and the smokehouses with tents are below, close to the Indian fishing grounds. From here, the road continues to Dease Lake.*



*The Tahltan River rushes in rapids into the Stikine. The gravel beach is an ancestral fishing site. The poles thrust out in the water hold nets that catch resting salmon.*



*Mis-ka-to is the Tahltan Indian name for this odd mesa-like rock formation. It faces the Stikine fishing beach and the smokehouses of the Tahltan Indians.*





of the Alaska Highway, Telegraph Creek was a busy spot for all the equipment came this way. The 53-mile wagon road to Dease Lake became a good gravel road, though with all the alarms of a roller-coaster.

The road soars out of Telegraph Creek and across the height of land, with its magnificent



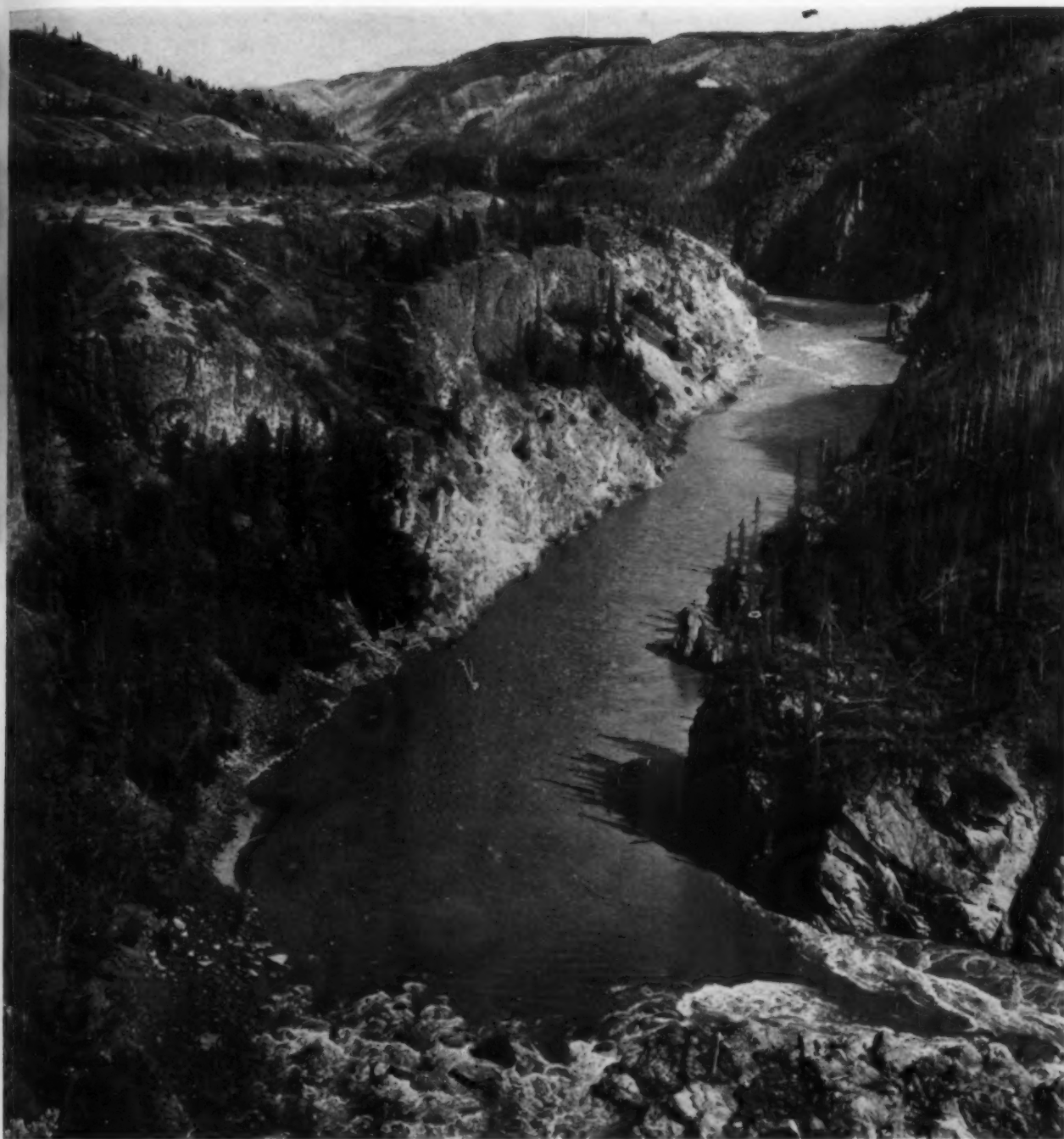
*Above:—Telegraph Creek not only supplies fresh water for the village of that name, but carries flakes of gold down to the Stikine.*

*Left:—The salmon is carefully cut so that the smoke reaches every part of it when hung in the smoke house. Fins and heads and roe are also smoked for winter use.*

views of the Sawtooth Range of the Coast Mountains, and of the depths of the Grand Canyon. Twelve miles on, it plunges down to river-level where the Tahltan River rushes in. A great rock face rises opposite the gravel beach, a strange fan-formation in the basaltic rock, which the Tahltans call *Mis-ka-to*. This



*The salmon nets are hauled in by a pulley arrangement. Tahltan women enjoy the pleasant life of summer fishing, and smoking their catch.*



*Part of the Grand Canyon of the Stikine, which stretches back into the mountains for 68 miles.*

area is an ancestral fishing site, its rights jealously guarded.

Tahltan village, perched high on the rocks, is deserted, its former residents now living in Telegraph Creek, but the smoke houses down on the riverflats are still used in summer. The migrating salmon are speared, or netted on pole nets thrust out into the river. The red fish are slit and the sides scored, and hung up in the smokehouses where lazy fires burn. Head, fins, roe and flesh turn an oily bronze, as blue plumes of smoke curl upward in the still air,

wafting through cracks in the walls and roof. Some of the canvas tents open directly into the smokehouses, which also serve as kitchens.

The road crosses the river, rises again, and crosses a lava bed of fused and jagged rock. After a few miles it swings away from the Stikine. But the Grand Canyon snakes on farther back into the mountains, and the river course goes back into land known only to prospectors, trappers and big game hunters, back to the snows of Mount Gunanoot.



*A group of young French-Canadian singers at the Folk-Song Festival, Château Frontenac, Quebec, in 1930.*

Associated Screen News

## ***How the Folk Songs of French Canada Were Discovered***

by MARIUS BARBEAU

**T**HE PLAN, when my career opened at the National Museum of Canada over forty years ago, was to study the remnants of the historic Huron nation that gave its name to Canada—*Canada* means *Village-folk*, in the Huron-Iroquois dialects. These Indians were first encountered by Jacques Cartier, the Breton pilot and sea captain of St. Malo at the service of King François I of France, over 400 years ago (in 1534). A few hundreds of those Red Men were at the time on a fishing and war

expedition near the mouth of the grand river now called the St. Lawrence. But their permanent village stood at Stadacona farther up the river, near the spot where Champlain later established Quebec. Of all the natives of the North American continent they were the foremost in the earliest records of discovery.

The study of their descendants at the present day looked unpromising. Only a few hundred Catholic half-breeds were left at the village of Lorette near Quebec; they had forsaken their



#### HOW THE FOLK SONGS OF FRENCH CANADA WERE DISCOVERED

customs and language and used only French. Some of the men still were hunters and trappers in the northern wilderness, or guides to sportsmen. Others were home bodies—craftsmen making snowshoes and sleighs; women producing baskets, toys, and moose-hair-embroidered moccasins. Yet it seemed wise to begin near home and explore scattered Indian territories, where frontier life still persisted or was about to fade out of existence.

My own incentive to proceed to Lorette in the spring of 1911 went back to impressions received in my boyhood at school. A Huron priest, the only one of his decadent nation ever ordained, had come as a guest of honour to the parish academy where I was going through the first grades. He had stepped onto the stage and had chanted and danced in the manner of his forbears of the woodlands. His strange tunes and pantomime were those of *La Découverte* or Discovery, *Weneeya*, and the scalp dance *Yanikoya*.

These chants brought to us a new and deep impression, so different were they from our own, so dramatic! They came from another world—that of the savages in the wilderness we had heard of. The Indian priest himself was a colourful survivor of a fabled past, for the Indians in their primitive state have long since vanished from French Canada. His long aquiline nose and profile, his coppery brown skin, his lustrous black eyes, his mellow yet sonorous and chesty voice, rang hauntingly magnetic. His noble presence, as soon as he wheeled about in a circle as if around a tree, filled the whole space. Here was a war chief on a forest trail, shading his brow with one hand and stooping forward, until he spied a white man in the distance, rushed for him, knocked him down with a tomahawk or war club, raised his scalp with a sharp knife, and then whooped for victory.

Entering the field as an ethnologist on the Huron reserve near Quebec, I enquired about the old priest of my college days, whose name was Prosper Vincent, the one who had sung and danced *Weneeya* and *Yanikoya*. He was still alive, though rather old and feeble then. I found him most friendly, and lonely. He proved by far the best informed among these

people on old songs, dances, legends, and ways of life. Nearly 70 songs were recorded with him on the Standard Edison phonograph, also a number of folk tales and traditions. Some of these have been published since, others are preserved at the National Museum. They have been saved in the nick of time for posterity, for he died soon afterwards, the last of his type.

My Huron research extended over the best part of three years and grew more fruitful than had been anticipated. And it led to other avenues among the neighbouring tribes of the northeastern woodlands, in particular among the allied Iroquoians of the Confederacy of the Five Nations. Those tribes once occupied most of what is now Ontario and the western half of the present state of New York. Rather civilized and politically advanced town-dwellers, they were Canadians by name, and tillers of the soil, playing a predominant role in the colonial history of Canada and the eastern United States. No government would count without them, and often they called the tune.

Besides, this study of the Indians unexpectedly opened the door upon another field, that of the French traditions of the country. It awakened interest in the recollections brought over from the motherland by the early settlers who, from 1635 to 1680 (a few even earlier), came to the shores of the St. Lawrence, to Acadia close to the Atlantic, to the Great



*The Huron priest of Lorette, Prosper Vincent, whose seventy Huron songs were recorded on the phonograph in 1911.*



*A group of Ste. Agnes singers and dancers at the Boudreau's, near Murray Bay, in 1933.*

Lakes, the Ohio or Belle-Rivière on the Missouri, and to Louisiana. For, at one time, two-thirds of North America were explored or colonized by the French, who readily made friends with the Indians.

The ancestral traditions of the French, enriched by the settlers and colonists and voyageurs, remained alive and vocal down to our time. But they were taken for granted and

remained obscure. Nobody thought they were worth recording and preserving, still less that, in a changed mechanized world, they would come to the verge of extinction.

While I was gathering Indian legends with the old half-breed Prudent Sioui (*Tsiwae'*, which means Lousy), a former hunter with dark eyes and a sullen countenance, and his pale-faced wife Marie Picard, I was hesitant when they offered me some tales of mixed origin—part Huron and part French—like the Tree of Dreams. This was a Christmas story about an apparition of the Blessed Virgin in a tree at night, and a veteran hunter who would adore the divine child in her arms; or like the tradition of Carcajou, a young Indian of high rank who had fallen into evil ways and sold his soul, like Dr. Faust, to the great Snake or Dragon. And he had been paid for it with a bottle of rum that never emptied however much was poured from it, a sack of gold ever brimful, and a prolonged life of frivolity and debauch.

My idea at the start had been to concentrate on ethnography, but later it was revised to include old French traditions and lore as well.

*Jean-Baptiste Dupuis of Ste-Anne-des-Monts, Gaspé, singing a folk-song to Marius Barbeau, in 1941.*

N.F.B.



#### HOW THE FOLK SONGS OF FRENCH CANADA WERE DISCOVERED

This was reasonable since frequently the Indian and French lore had so intermingled that it was not easy to unravel their blended fabric. During a short period of transition, Huron tales like the Iroquoian cosmogony of Tsetsta and Tawiscaron (Fire and Flint), the divine Twins that fashioned the Great Island at the beginning, were followed by *Eau de la Fontaine de Paris* and *La Princesse des Sept Montagnes Vertes*. Then it was agreed to incorporate French-Canadian folklore in the regular Museum program. And this policy has been continued, even expanded to include English and other white man's lore, to the present time.

Likewise when dark-eyed Sioui and his pale-faced wife brought forth Indian songs and lullabies like *Nenki nenki nenkok*, to put a child to sleep on a cradle-board, the phonograph entry on an index card was filed away among the Huron-Iroquois materials. But when, soon after, Mrs. Sioui intoned *La Fille du roi d'Espagne*, it sounded quite different, and the entry on a card went into another file, among French tunes. But the French songs were not then acceptable, in spite of their charm, their modal quality, rhythm and lilt. They were

brushed aside because it was then believed, they had been collected and published long before (in the 1860's) by Ernest Gagnon, of Quebec, in his *Chansons populaires du Canada*, a well-known book that has run into several editions and contains about 100 songs. It was supposed to have drained the field to the very bottom. So nobody considered it worthwhile to revisit the sources.

I decided to look into this promising avenue, and proceeded down the St. Lawrence. Early in May, I packed up my phonograph and a large supply of blank wax records, plenty of field notebooks with red covers, index cards to fill a whole drawer. For if you wish a thing really to happen you must visualize it first, make ready for it, and expect it. And there is every chance that it will come to pass.

I landed at Eboulements, Charlevoix county, in the foothills between Quebec and Murray Bay on the northeast shore, one evening after the setting sun had painted the wide expanse of the river red, a sign of fair weather for the morrow, and for me, a prognostic of a rich harvest in the summer months to come.

The next morning, strolling along the dusty

*French-speaking Red River (Manitoba) half-breeds getting ready for a dance and a song. Photographed at the Folk-Song Festival at Château Frontenac, Quebec, in 1930.*

Associated Screen News







*A group of Ste. Agnes singers and dancers at the Boudreau's, near Murray Bay, in 1933.*

Lakes, the Ohio or Belle-Rivière on the Missouri, and to Louisiana. For, at one time, two-thirds of North America were explored or colonized by the French, who readily made friends with the Indians.

The ancestral traditions of the French, enriched by the settlers and colonists and voyageurs, remained alive and vocal down to our time. But they were taken for granted and

remained obscure. Nobody thought they were worth recording and preserving, still less that, in a changed mechanized world, they would come to the verge of extinction.

While I was gathering Indian legends with the old half-breed Prudent Sioui (*Tsiwae'*, which means Lousy), a former hunter with dark eyes and a sullen countenance, and his pale-faced wife Marie Picard, I was hesitant when they offered me some tales of mixed origin—part Huron and part French—like the Tree of Dreams. This was a Christmas story about an apparition of the Blessed Virgin in a tree at night, and a veteran hunter who would adore the divine child in her arms; or like the tradition of Carcajou, a young Indian of high rank who had fallen into evil ways and sold his soul, like Dr. Faust, to the great Snake or Dragon. And he had been paid for it with a bottle of rum that never emptied however much was poured from it, a sack of gold ever brimful, and a prolonged life of frivolity and debauch.

My idea at the start had been to concentrate on ethnography, but later it was revised to include old French traditions and lore as well.

*Jean-Baptiste Dupuis of Ste-Anne-des-Monts, Gaspé, singing a folk-song to Marius Barbeau, in 1941.*

N.F.B.



#### HOW THE FOLK SONGS OF FRENCH CANADA WERE DISCOVERED

This was reasonable since frequently the Indian and French lore had so intermingled that it was not easy to unravel their blended fabric. During a short period of transition, Huron tales like the Iroquoian cosmogony of Tsetsta and Tawiscaron (Fire and Flint), the divine Twins that fashioned the Great Island at the beginning, were followed by *Eau de la Fontaine de Paris* and *La Princesse des Sept Montagnes Vertes*. Then it was agreed to incorporate French-Canadian folklore in the regular Museum program. And this policy has been continued, even expanded to include English and other white man's lore, to the present time.

Likewise when dark-eyed Sioui and his pale-faced wife brought forth Indian songs and lullabies like *Nenki nenki nenkok*, to put a child to sleep on a cradle-board, the phonograph entry on an index card was filed away among the Huron-Iroquois materials. But when, soon after, Mrs. Sioui intoned *La Fille du roi d'Espagne*, it sounded quite different, and the entry on a card went into another file, among French tunes. But the French songs were not then acceptable, in spite of their charm, their modal quality, rhythm and lilt. They were

brushed aside because it was then believed, they had been collected and published long before (in the 1860's) by Ernest Gagnon, of Quebec, in his *Chansons populaires du Canada*, a well-known book that has run into several editions and contains about 100 songs. It was supposed to have drained the field to the very bottom. So nobody considered it worthwhile to revisit the sources.

I decided to look into this promising avenue, and proceeded down the St. Lawrence. Early in May, I packed up my phonograph and a large supply of blank wax records, plenty of field notebooks with red covers, index cards to fill a whole drawer. For if you wish a thing really to happen you must visualize it first, make ready for it, and expect it. And there is every chance that it will come to pass.

I landed at Eboulements, Charlevoix county, in the foothills between Quebec and Murray Bay on the northeast shore, one evening after the setting sun had painted the wide expanse of the river red, a sign of fair weather for the morrow, and for me, a prognostic of a rich harvest in the summer months to come.

The next morning, strolling along the dusty

*French-speaking Red River (Manitoba) half-breeds getting ready for a dance and a song. Photographed at the Folk-Song Festival at Château Frontenac, Quebec, in 1930.*

Associated Screen News





*The Leblond family of Ste. Famille, Island of Orleans, in 1928, singing while they work. They took part in the Folk-Song Festival, Château Frontenac, Quebec.*

Associated Screen News

village road close to the sea shore at Lower Eboulements (which means Landslide) I noticed an old woman rocking herself on her verandah. She was knitting a pair of woollen stockings. Smiling, she greeted me, as the people in this country always do, stranger or friend. This smile was like an invitation to come and sit beside her while she went on with her work.

What, I asked, did she sing to her children or her grandchildren? Her answer was (and my red notebook with fountain pen were already at work:) *Mon petit Jésus, bonjour! C'est la poulette grise* . . .

This easy entry into the realm of folk-songs beginning at the cradle and in the nursery, did not permit any hesitation or delay. I spent the next few days on the same and neighbouring verandahs facing the St. Lawrence, recording many songs, now in shorthand, then on the phonograph as well, and the informants enjoyed hearing their own voices reproduced on the recordings. During the evenings, for a change, I went about calling upon other old people in the village. Every one was interested in this strange but welcome pastime. And nearly everybody had something to offer.

Elizabeth Tremblay, the 80-year-old grandmother whom I had first consulted, while she smoked a clay pipe, furnished some valuable items so far unknown. They were a surprise to me, as they had the familiar ring of true folk songs, to which I soon grew accustomed.

Among them were. *Mon père n'avait fille que moi*—My father had me for an only daughter. Yet he sent me out to sea. The captain in command, etc.

(A lively dance song);

*La Belle a pris son miroir*—The pretty maid held up her mirror. Her young brother, beholding her, said: "What's the use to be so pretty, etc.";

*L'Herbe verdit tous les printemps*—The grass grows green every spring . . . (A shepherd love song.)

Very soon, I climbed the nearby hills—about 1,500 feet high—to the mountain village of Upper Eboulements, with a string of white houses leading up to the parish church with a high spire. There I found a treasure trove of tales and songs, and much of the coming month was spent there. By a strange anomaly, the richest part of Eboulements in folklore was

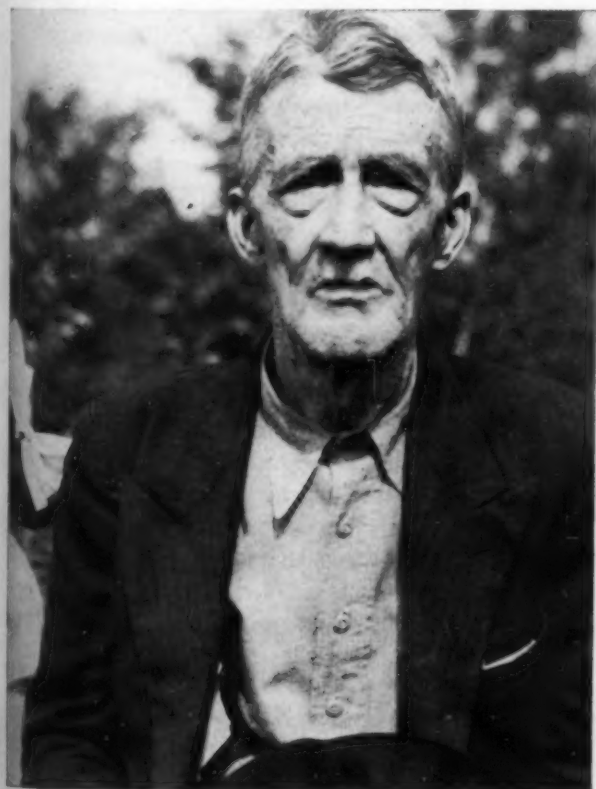


# HOW THE FOLK SONGS OF FRENCH CANADA WERE DISCOVERED

a long slope, called Misery Row: *le Rang de la Misère*. The fairy tales there dovetailed with folk-songs. The Bouchard and Tremblay families were of the best. And "Père Mailloux" proved unsurpassed in his stories of *Talon-Rouge* (Red Heel), *Tarabon*, the sorcerer *Merlin*, and *La Syrène*. Jean Bouchard, who claimed he could do as well, gave the tales of Petit-Jean in a cycle, like those of Paul Bunyan in the woodlands of the United States. And it seems that Bunyan's wonder stories are the offspring of Petit-Jean's. The puny boy of Canadian folk tales was the last in a family of several children born of poor parents. In spite of wretched beginnings, he managed to win the goodwill of a fairy or enjoyed good luck, and he had plenty of pluck. So he quickly rose in the scales, accomplished herculean tasks, slaughtered monsters and giants, and in the end married the princess whom he had delivered from the dragon.

Folk-songs, however, remained the main pursuit of that revealing summer which was replete with discovery. Of a number of good folk singers, two will serve as typical: Mme. Jean Bouchard and Louis l'Aveugle or the

*Adelard Lambert, formerly of Berthier-en-haut, Quebec, whose collection of folk-songs, dances, and folk-tales for the National Museum remains unsurpassed. (Photographed in 1943.)*



Blind. All their songs were traditional. They had come down from other folk like themselves, and had been learnt by ear at an early age, usually in childhood, and often were rehearsed during a lifetime.

Mme. Jean Bouchard, of Upper Eboulements, was the wife of a former lumberjack and labourer. They had lived with their family abroad, and only recently had come back home very poor; and he had lumbago. Their family of boys and girls was growing lustily about them. Mme. Bouchard was gentle, sweet, and patient, with a saddened smile. Her thin though "long" voice was not without charm; it was tinged with melancholy. Her songs, recorded at the rate of about twenty per sitting, were gradually disclosed. In the exile of her family abroad, for some years, she had stopped chanting her home songs, but had not forgotten them. The chief feature of her repertory was its domesticity and simple faith in religious legends, in miracles, in the lives of saints. Mediaeval *complaintes* or ballads of the 'come-all-ye!' kind were by no means lacking, and I eagerly sought them. She also gave love songs of the *pastour-elle* and nightingale-messenger class. Fort

*M. and Mme Jean Bouchard, of Les Eboulements, among the first singers utilized in recordings, in 1916. Mme Bouchard's songs were notable for their domesticity and simple faith.*



instance: *La bergère muette—Ecoutez la complainte...*

The blessed Virgin appears to the deaf shepherdess, and by a miracle makes her speak before she dies and goes to heaven.

*Blanche comme la neige—*

White as the snow . . . The ballad of a maiden kidnapped on horseback by three bold knights. But she feigns death to foil their designs.

*Derrière chez mon père, vole, mon coeur! . . .*

A spinning and work song with chorus.

*J'ai cueilli la belle rose—*I have plucked the pretty rose . . ., a dance song on a theme of gallantry and love.

Louis Simard l'Aveugle, or the roving blind minstrel of the North Shore, belonged to another class. Blind since childhood, he became an entertainer from his youth, and he was now past sixty. In the summer, he travelled about on foot, with his fiddle or table harp (*bioune*). Everywhere in two or three counties from Charlevoix to Lake St. John and the Saguenay he was well known and welcomed by all, and he chose the best house and table when he stayed for a few days. There he would give songs, yarns, and vaudeville, his only reward being hospitality and cheer. And he spread news and gossip wherever he went. His reputation had reached far and wide. Soon it came to my ears, and equipped with the phonograph, I wanted to meet him. The problem was to find him on the remote by-ways when no one was ever sure of his whereabouts.

Someone assured me that he would arrive at St. Irénée, a coast parish to the east, for his annual pilgrimage to his birthplace there on

the feast of St. Anne, on the 25th of July. So I packed up my phonograph and plenty of blank records and took passage on a paddle-wheel boat to St. Irénée, on the eve of the St. Anne's celebration. I landed there at night and, at a boarding house, I enquired about Louis L'Aveugle. Good news for me: he had come the day before. So I waited impatiently to see him the next day.

It was a sunny morning, as I went out to explore and enquire about him among scattered houses on the tidal shore. A strange-looking old man with long locks of grey hair and vacant facial expression, seemed to follow his cane as he slowly stepped forward in my direction. Without doubt, this was L'Aveugle, the Blind Singer. I stopped in front of him, and he paused to size me up. Who was I? He could not make out, for we had never met before. Blind as he was, his perception was keen, for in no time he "knew" me to his own satisfaction, and understood my "business"—looking for songs and yarns. He invited me to walk in at the next house for a cup of coffee. This place was like home for him, and he could bring in a guest. This was Mme. Gautier's, who greeted us just as if we were expected. And so—I was hunting for folk-songs and yarns! I would get them in plenty. I mentioned my phonograph. He knew about such contrivances. He would sing in it and then hear his own voice—what fun! Yes, I agreed, quite satisfied with the way things were going, even before breakfast! Now, in advance, I wished to hear his famous ballad *Pyrame et Thisbé*, 260 lines long. It is an old classic I had heard about, and is mentioned by Shakespeare in *A Midsummer Night's Dream*. Its origin was in Asia Minor long ago. We sipped our coffee over the thought of his giving the whole of that "come-all-ye" in which two Babylonian lovers are opposed by Thisbé's family. They cut a hole through a stone wall to speak secretly of their love to each other, and to plan an escape at dawn. They ran away separately into a lion-infested desert, only to meet with a tragedy of error there . . .

To my utter disappointment and surprise, Louis L'Aveugle stopped short at the second stanza, having intoned: *Deux jeunes coeurs jadis* . . . But why, go on, go on! He informed

*A French-Canadian farmer and his wife on their way to the grist mill at Isle-aux-Coudres.*

Associated Screen News



me that this was not the time for him to sing such frivolity. The feast of St. Anne was about to begin. St. Anne was his great patron saint. He had come a long way from Mille-Vaches, a place called Thousand-Cows (Sea-Cows) on the lower St. Lawrence, to confess his sins to the parish priest and receive Holy Communion, and to do his annual conscience searching and cleaning. A job!

I thought I could overcome his objection with the offer of paying for his services, so much per day, so much per hour. But nothing would induce him to change his mind. I had to go back empty-handed to my headquarters, yet with a promise. In a week, if I came back, he would do all I wanted, sing, dance, stand on his head! He would sing for the phonograph *Pyrame et Thisbé, Damon et Henriette, St. Alexis* (or the saint under the staircase), and all kinds of *tordions*, God bless you!

A week later, I renewed my visit with my equipment and a great craving for songs and yarns. This time there was no disappointment. In less than three days I had exhausted my local supply of wax blanks, and had taken down ninety songs. Some of these were recorded at an evening party, the last of three nights I was there, as singers and dancers of the neighbourhood had gathered. During that lively evening, song and dance in the old style came back into actuality. And, in the isolated district, such evening affairs were still a common and enjoyable experience.

Among the songs recorded there were:

*C'est un petit cordonnier—*

A small shoemaker, looking around for a sweetheart . . .

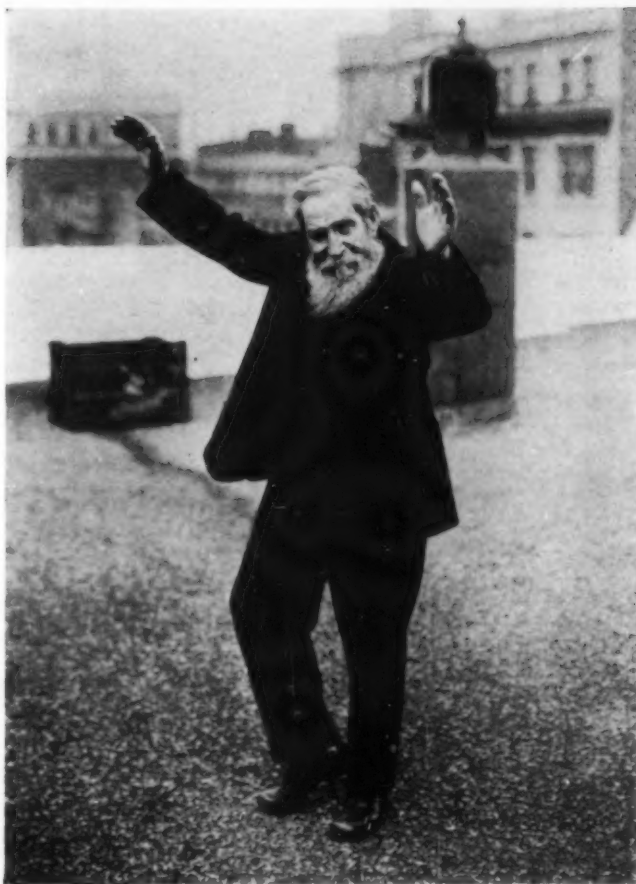
A dance song with a chorus.

*Mon doux berger, n'as-tu-pas vu?*

A shepherd lyric song, in which the shepherd pines for his sweetheart and looks for her in the hills.

*Ce sont les filles de St. Constant* or *C'est l'amour qui les prend* . . . A paddling song with solo and chorus.

*Isabeau s'y promène* . . . a lilting dance song, about a girl on the sea shore who is lured aboard by passing sailors, falls asleep to their sing-songs, and awakened too late to regain the shore.



Isaïe Leroux was a famous dancer in his day. Here he is shown in Montreal, about 1920.



Alphonse Plante, a folk singer in costume of St. Pierre, Island of Orleans, at the Folk-Song Festival in 1928.





## ***Building a Business from the Air***

by J. A. WARBURTON, P.Eng.

Spartan Air Services Limited photographs

*Left:—Helicopters and 'Beaver' aircraft play a vital role in exploring the remote northern wilderness, by transporting men and supplies to inaccessible regions.*

**A**S THE WAR drew to an end and the problem of civil employment loomed, in camp and depot and on ships at sea, everywhere men congregated, one great question was discussed; what will we do when we are demobbed? Many voted to stay in the service, the life suited them, some who had hardly been able to wait for their discharge were back after a few months of bewildering civil life.

Some talked of the holidays to come, some of university, some spoke nostalgically of a little home and a few acres of garden. The sailor spun the old yarn; he would shoulder an oar and walk inland till asked what he was carrying, there he would settle. The soldier never wanted to see a parade ground again; some airmen even went so far as to say that never again would they quit solid earth for the hazards of air travel.

Among others, one small group of airmen evolved from discussion a scheme to fly again,

commercially, taking photographs from the air, verticals, obliques, or whatever might be wanted. They saw the demand for aerial photography and the possibility that they might make a good living at it. There must have been "great argument about it and about" but from argument and discussion came action.

They pooled their resources, borrowed money from a business acquaintance, who must have been a keen student of mankind, bought up two war surplus Anson aircraft, and three cameras, and set up in business.

In 1947 they were granted a charter to do aerial photography under the firm name of "Spartan Air Services Limited" with offices in Ottawa and hangar space at Uplands Airport.

That year they flew some 10,000 miles of photography grossing \$63,000. Today their fleet of some twenty-six aircraft equipped with the latest and most efficient cameras is in the skies from the Atlantic to the Pacific. It is a

*Right:—Team work: pilot, cameraman-navigator, and ground engineer prepare a plastic-nosed, high flying 'Lightning' for a photo mission.*

poor year that they fly less than 100,000 miles and their gross business runs into seven figures.

The curve of success has not been smooth. The Company has had its ups and downs, and more than once the little group faced disaster, but determination and hard work brought them through. As they became known for the high quality of their product, the variety of services called for increased with the volume of work done. Opportunities to do mapping could not be turned down nor repeated requests for magnetometer surveys ignored. At first contracts for extra services were sub-let, but, in 1950, Spartan arranged with Aero Service Corporation of Philadelphia to organize Canadian Aero Service Limited, to supply such mapping, magnetometer surveys, and other extra services as might be required.

The services of the two companies are many and varied though the basic function is still photography; the majority of services depend on the camera. It would seem, therefore, that the camera is the most important item of equipment. Such cameras are very different from the ones we use for family snapshots. They are big machines, taking rolls of 250 to 500 nine-inch-square exposures and costing up to \$15,000.

To provide for the taking of photographs, a hole is cut in the floor of the plane and the camera set in a special mount permitting it to be tilted in any direction so that it may be levelled at the moment of exposure, and can be moved to any angle necessary. Some are gyroscopically controlled to keep them, automatically, as nearly vertical as possible. There is also a special sight by means of which the camera man can determine his ground speed and so gauge the interval necessary between exposures. The majority of cameras are wound, and the shutter tripped, electrically; an intervalometer is set to space the exposures. A red light comes on to warn the operator to have his

*Right centre:—Aerial cameraman Joe Scott, in camera position of a 'Ventura', checks drift sight while flying at 20,000 feet on a Shoran-controlled photographic sortie.*

*Key man in high altitude operations is the P.38 'Lightning' pilot. Here Welden Phipps tests oxygen equipment prior to take-off and rapid climb to his operating height of 35,000 feet.*





*Photograph of forestry area clearly shows logging roads and cut-over regions (resembling fingerprints) plus density of tree growth.*

camera level at the moment the shutter is tripped. Constant watch must be kept on ground speed to maintain the required overlap of photographs.

With a forward overlap of 60 per cent on each exposure, any two consecutive photographs form a stereoscopic pair that, viewed

through a stereoscope, give the effect of three dimensions. The principle is the same as the stereoscopic viewer that amused the bashful or bored caller in Victorian parlours.

Aerial photography, as such, has many uses. Pulp and paper and lumber companies use it to take inventory of their forest resources,



*An old crater outline (arrow) spotted from the air in the northern tundra.*



to site logging roads and to photograph cut-over areas. From these clear photographs the number of trees, their type and size can be judged; photographs of cut-over areas give information required in a fraction of the time and cost of ground methods.

It provides a new and highly efficient tool for geologists and geomorphologists. From the air individual features appear in their proper place as a progressive and orderly pattern, not as individual unrelated phenomena. The original fluid quality of the earth's crust is as evident as the flow of a river. Glaciers resemble white rivers flowing between mountainous banks. The flow of once molten material can be followed; its folds, faults, and intrusions, dykes, unconformities and other structural features, and their relation one to another can be distinguished easily. The whole is seen as a definite result of a series of geological processes operating through an orderly sequence. This is perhaps especially true of high altitude photography, taken from 30 to 35 thousand feet above sea level. It has been found that formations can be seen from this altitude that are not immediately distinguishable on larger scale photographs. On the surface man is dwarfed by the immensity of detail and only by tedious research and study is he able to arrive at the picture presented, in the tripping of a camera shutter, from high altitudes.

*Fine example of photography of earth's crust from 35,000 feet reveals to the practised eye of the geologist the structural history of the area.*





*Left:—Spartan executives R. L. Hall, John Roberts and Col. J. A. Warburton show new product, St. Lawrence Seaway mosaic portfolio to Mr. Robert Saunders (pointing to map), Ontario Hydro chief.*

*Right:—Many prints combined to make a photo-map of Cornwall area—part of the series of mosaics prepared in connection with the St. Lawrence Seaway project. Scale of the original (reduced in this picture) is 1,000 feet to the inch.*

High altitude photography is largely used for mapping large areas in inaccessible or mountainous country. Each photograph covers close to 100 square miles of country so that a vast area can be photographed with a minimum number of exposures.

Photographs from more normal altitudes, 2,000 to 20,000 feet above sea level, are used by surveyors for highway and railway location, by power engineers for power projects such as calculating water storage, siting dams and power stations.

Large scale photographs of towns and cities are used for traffic studies, assessment, development planning, and kindred purposes.

Photographs can be taken to any scale required. The scale is a function of the height above the earth's surface and the focal length of the camera. For example the scale of photography taken by a camera with 6-inch focal length from a height of 6,000 feet will be one inch equals one thousand feet. The relation of scale to elevation and focal length can be expressed by the equation  $S = H/F$  where  $S$  = the scale in feet per inch,  $H$  = the height above ground in feet and  $F$  the focal length in inches.

Cameras of 6-inch focal length are most commonly used but 8¼-inch and 12-inch cameras are used for special purposes.

To achieve a correct composite picture of a large area, a number of photographs are cut and fitted together to form a "mosaic". Mosaics can be made to scale as accurately as a map and are often more easily followed by those untrained in map reading. Most people, to whom the conventions and symbols of map

making are confusing, can read a photograph without difficulty. In making a map a large percentage of detail is lost, that is fully retained in a mosaic.

Mosaics are sometimes called "photo-maps". To make an accurate or controlled mosaic it is necessary to correct, or rectify each print for possible camera tilt, distortion, etc. As a rule only the middle or least distorted section of the photograph is used.

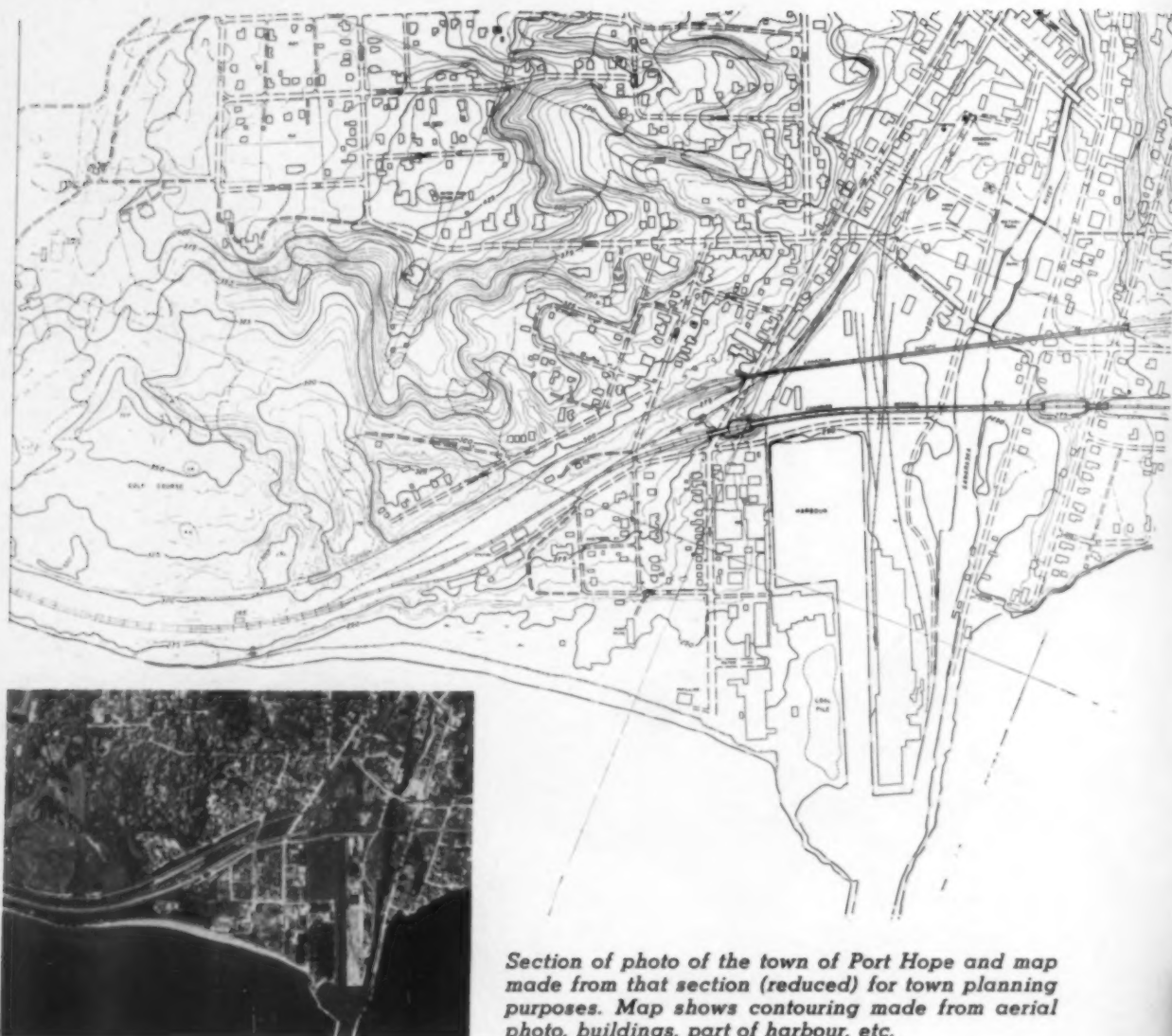
Map making from photography is a major branch of the industry. The actual mapping is done by Canadian Aero Service Limited using Kelsh plotters. With this instrument topographic maps can be made to a contour interval of two feet with the usual guaranteed accuracy of one-half the contour interval. Two-foot contour maps are usually drawn to a scale of one inch equals eighty feet or one inch equals one hundred feet. The contour interval is in direct relation to the altitude of flight and therefore, to the scale of photography.

To make a contour map on the Kelsh plotter; first diapositives or transparent positive prints, are made from a stereoscopic pair of photographs. These are fitted into two frames above the drafting table and are projected through two coloured lenses, red and green respectively. The diapositives are orientated to bring the two projections into the same relative positions as existed in the air at the moment the photographs were taken, the images are superimposed, and, when viewed through eye glasses with one red and one green eyepiece, the projected picture is seen in three dimensions. In setting diapositives adjustments









*Section of photo of the town of Port Hope and map made from that section (reduced) for town planning purposes. Map shows contouring made from aerial photo, buildings, part of harbour, etc.*

of model and projectors are made with respect to the map plane, to arrive at the desired scale and orientation with all points in the model having their proper relation to sea level.

The two projectors are connected to a small circular table, the tracing table. This is a light weight, movable device (carrying a small platen with a measuring or floating mark in the centre) upon which images properly superimposed are cast by the projectors. The tracing table can be raised or lowered by means of a micrometer. As the micrometer is turned the floating mark appears to rise to the tops of the hills or descend into the valleys. Directly under the floating

mark is a pencil. A map is drawn by moving the table, using the mark to trace out all cultural features, drainage features, and wooded areas. To draw in contours the floating mark is set on a known point at the required elevation and moved over the projected image, keeping the mark on the surface at that elevation. The pencil directly beneath the mark traces its path, or contour line, on the map.

Planimetric maps, that is maps without contours or levels, are made in the Kelsh or by use of Sketchmasters or other mechanical aids for drawing direct from photograph to map.

*Right:—Laboratory technician numbering and classifying long rolls of aero film before prints are made.*

Ground control is necessary to ensure the accuracy of aerial maps. Four or more elevations are required on each photograph and measured horizontal distances every third or fourth exposure. These controls are supplied by a staff of skilled surveyors who work on the ground.

An increasing number and variety of electronic instruments is taking to the air to facilitate and amplify the services provided by air survey companies.

The two companies concerned use the Gulf magnetometer to locate, or to indicate the presence of metallic minerals or oil. This instrument records changes in the earth's magnetic field and has been instrumental in the discovery of major deposits of iron, nickel, and asbestos. In prospecting for oil the magnetometer record indicates the physical characteristics of the basement rock under many feet of sedimentaries. The resulting map is of great use to indicate the probable occurrence, or absence, of oil pools.

In using the magnetometer the same techniques are followed as are employed by both the Canadian and United States Governments, who are currently expanding airborne magnetometer work to facilitate geological mapping. During operations airborne magnetometers are regularly monitored by an exactly similar

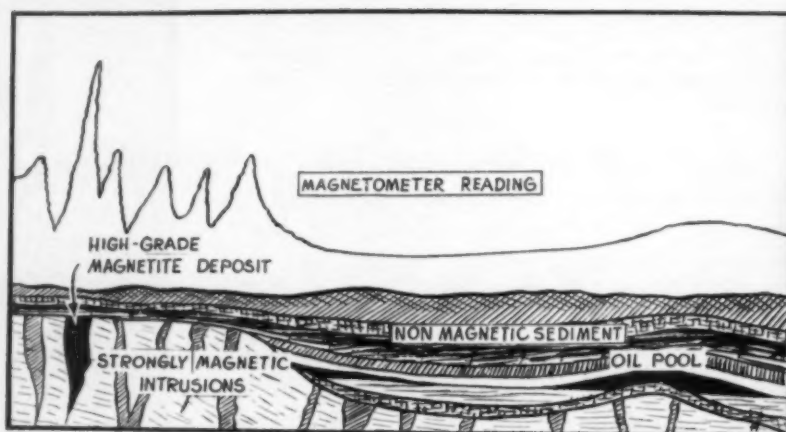
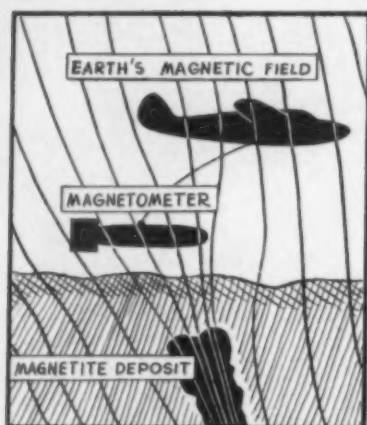


*Important stage in skilled art of map-making: the laydown of hundreds of overlapping aerial photographs, which are closely checked for flight accuracy.*

instrument on the ground, which registers diurnal and local disturbances which might upset the record of the airborne instrument. There is continuous radio telephone communication between ground monitor and plane, so that, if the diurnal disturbance is too great for normal compensation, the plane may be recalled. Variations in the earth's magnetic field are recorded on a continuous roll. A gyroscopically controlled continuous strip camera photographs the path of flight. Its speed of operation is synchronized with that of the recorder and corresponding fiducial marks on both ensure instant relation of any point on the recorder with its equivalent on the ground.

*The "magic 3-D tool" of the winged surveyor—the Kelsh Stereoplotter, which draws topographic map by following third-dimensional view of terrain.*





The airborne magnetometer patented by Gulf Research and Development Corporation has been extensively used across Canada for the past six years. Towed beneath the plane on a 75-foot cable, it records changes in the earth's magnetic field. A deposit of magnetic minerals produces strong signals indicating anomalies such as have led to discovery of rich deposits of iron, nickel, and asbestos. (Below) A magnetometer in operation over northern Quebec.



The Scintillometer, development of the Geiger counter, records the presence of radio active substances and has been instrumental in the discovery of some of our major uranium deposits. The instrument used has been developed and perfected by the National Research Council of Canada.

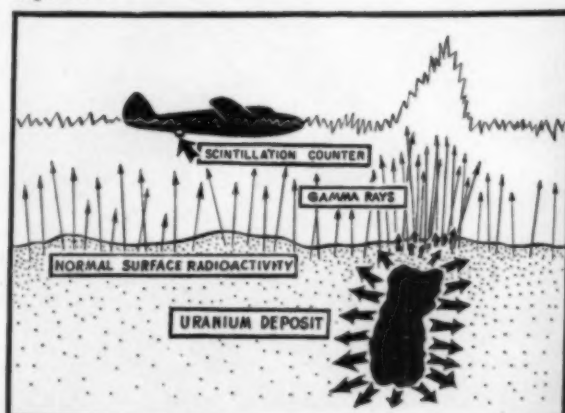
The airborne profile recorder, or radar altimeter, records the height of flight above the earth's surfaces. An impulse sent out from the recorder strikes the earth, and returns. The time taken to make a round trip varies with the height above ground, and this time factor is converted to read directly in feet.

In the past three years Spartan has flown some 30,000 miles of Shoran controlled photog-

raphy to provide horizontal control for existing vertical photography, covering some quarter-million miles of the Northwest Territories, Northern Alberta and British Columbia. In 1952 they also did a job of Shoran controlled photography in Liberia.

The term "Shoran" is a contraction of the phrase "short range navigation". Shoran is an electronic measuring system for indicating distances of an aircraft or other vehicle from each of two fixed Shoran ground stations. These signals are received and immediately transmitted back to the plane. By automatic measurement of the time required for signals to traverse each round trip path, the distance from airborne equipment to each ground station is accurately measured. This information together with the knowledge of the flying heights and geodetic positions of the ground stations, permits computation of absolute airborne positions. The ground stations may be 150 to 200 miles apart so that large areas may be photographed with a minimum of ground stations. The accepted method is to fly a net-

The airborne scintillation counter was developed from the Geiger counter. It records gamma rays and indicates areas of concentrated radio-activity such as uranium or thorium deposits.







*Rapid inventory of log, coal, or slag piles is provided by airborne camera. One-third of normal ground survey cost is saved by using two overlapping vertical photos in Kelsh plotter; these are translated into a contour map by means of the third-dimensional image. Photo shows log pile (centre) contents of which can be calculated, booms of logs in river, pulp mill (left), and bridge (right).*

work of controlled photographs into which existing photography can be tied.

The fleet of seven 47D-1 Bell Helicopters is in constant demand for a variety of purposes such as carrying men and materials to areas difficult of access, fire watching and fire control in forest areas, speeding up geological and topographic surveys. This season of 1954 Spartan helicopters are based from Cape Breton and Seven Islands in the gulf of the St. Lawrence, to Beaverlodge in Alberta and the Keewatin district in the Northwest Territories.

From small beginnings, in 1947, Spartan

Air Services with Canadian Aero Service have expanded to a major industry with commitments across Canada and in foreign countries. This year they are photographing British Guiana for the Colonial Office. They have flown over 500,000 miles of magnetometer survey, more than a million square miles of aerial photography, and many hours of helicopter service. They have explored and developed new fields of endeavour and are continuously engaged in research for new uses of existing equipment and for new equipment to simplify and improve existing services.



*The Old Harry Rocks stand like stately white guardians off Handfast Point, very erect and dignified. They seem like a continuation of the Needles off the west end of the Isle of Wight.*

## ***Magic of Purbeck***

by DIM PARES

Photographs by Joan Muspratt except where credited

**S**OUTH OF Poole Harbour in England, from the Old Harry Rocks off Standfast Point to Arish Mell Gap beyond Tyneham, the hills sweep round in a semi-circle, enclosing between them and the sea a chink of land about ten miles by five known as The Isle of Purbeck. On the coast side the English Channel sweeps into the secret bays of Studland, Swanage, Durlleston, Kimmeridge and Worborough, or breaks with a slap and a shiver against the rocks of the ancient quarries, Tilly Whim, Dancing Ledge and Winspit. To the landward lie the villages of Corfe Castle, Kingston, Church Knowle, Steeple and Worth and Langton Matravers. Corfe Castle is the gateway proper to Purbeck, beyond it the heath with its

china clay pits and strangely tinted pools runs down to the boundary line one mile before Wareham.

There's an enchantment about Purbeck, something, that lifts you out of yourself, and gives you the continuity of the centuries and the sense that everything has happened here. It is a very ancient land, each step you take will bear this out.

Pre-history has left its spoor embedded in the ancient rock—skeletons of fabulous beasts and fossils have been found along the coast. Flints and arrow-heads denote Old and New Stone Age inhabitants swept from their pit-dwellings by the Gaels of the Bronze Age, who in their turn were conquered by the Britons of the Iron

## MAGIC OF PURBECK

Age. After the Roman occupation the Danes pillaged and occupied the seaboard for nearly a hundred years, until in 877 well over a thousand years ago King Alfred sank 120 of their ships off Peveril Point in Swanage Bay. The Norman Invasion saw the erection of Corfe Castle. This changed hands many times before its destruction 500 years later in the Civil War between Charles I and his Parliament. A part of the Spanish Armada was chased round Swanage Bay by Sir Christopher Hatton. Beacons were built along the hills during the Napoleonic Invasion scares. In 1914 and again in 1939 coastal defences were built and manned. Swanage was bombed in the last war and from her bay on D Day sailed a contingent of the Invasion Fleet.

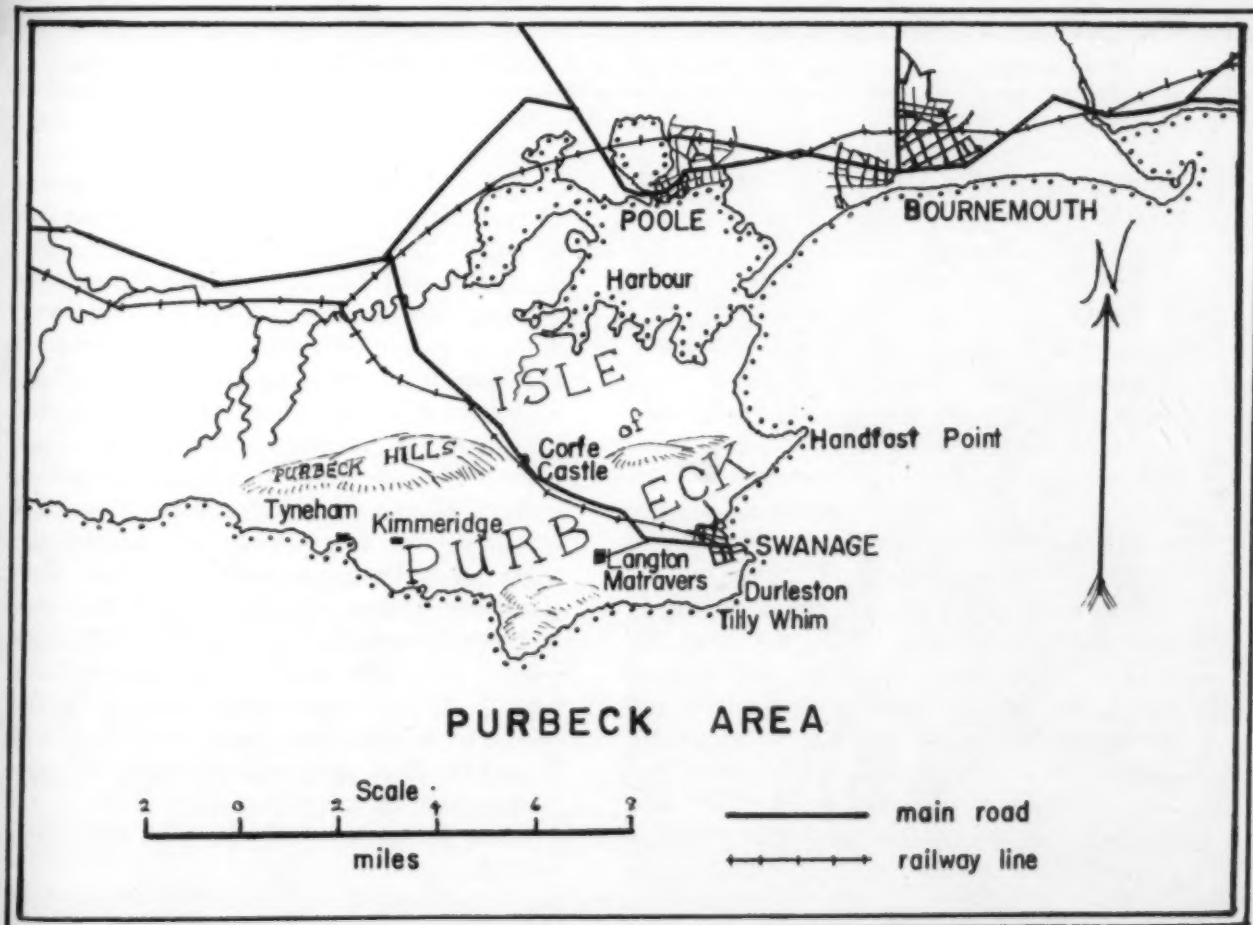
Now Purbeck dreaming beneath summer skies holds the troubled centuries within her hills and it is this feeling of the whole of life's experience endured, absorbed and weathered that gives it some peculiar quality of its own.

Walking is the Purbeck pace, this has the

effect of slowing down the rush of contemporary life and hitching you instead on to the slow-moving life of the centuries. From the broad views of hills and sea star-crossed by cloud and tide you are caught back inevitably into the detail of Purbeck life.

Most of the fields have stone walls. Quarries abound here — for stone, for marble, for crazy-paving. There is not the demand for "lasting stone" that there used to be in the twelfth and thirteenth centuries when shiploads left Swanage for building the Tower of London and Windsor Castle. And though most of the quarries are still worked, the old quarry quays are desolate, the stones being transported by road and rail. The quarry-men are a race apart, possessing a dignity and individuality rare in these days. Many of them have rights granted in Queen Anne's reign which have passed down with their families through the years; these private owners sell the results of their quarrying to the larger firms.

I went down one of these "Purbeck Holes" —







*One of the many small and secret bays that makes the Isle of Purbeck seem so intimate and private. The vari-coloured sands, the razor shells and the scent of the gorse covered cliffs are an unending delight on a summer's day.*

slipping and sliding fifty feet into the earth through a tunnel dripping with moisture and ferns. The owner met us at the bottom with a candle-end and conducted us about a quarter of a mile to the face he was working. His family had been digging this hole for hundreds of years! No wonder he felt at home in it. No wonder he could read his stones as other men read books — by their cracks and veins and markings he knew the whole story. Each of these quarries has a collection of antiquities, ranging from crocodile bones and fossils to the footprints of an iguanadon.

As in most quarry districts stones are put to every conceivable use. Walls are made of slatted stones, leaning this way and that as they go up and down hill. A friend once told me she wanted to make a hole in her garden wall and unpicking a bit found the whole wall began to unravel like a piece of knitting. She propped it up and quickly sent for an expert.

On a real Purbeck day a haze covers everything, enhancing the colouring and giving it a restrained loveliness I have seen nowhere else. Then from the hill-tops the old stone farm-houses gleam and shimmer and you are drawn down to a closer view of mullioned windows and stone-tiled roofs. Most of these date back to Elizabeth's reign when they were re-built on the sites of more ancient dwellings. Godlingstone is one of these — built in the 14th century it has a circular Saxon tower one end originally used for storing grain against the pillagings of Danish invaders. But older than these farm-houses are the churches of Worth and Studland, both fine examples of Norman design. Here priests have served since King Alfred's time, when, barricaded within, the people withstood pagan raids. On D Day and thereafter their descendants prayed for the safety of the Invasion Fleet.

Along the Downs by the sea in early June

*Lobstering is a profitable business in Swanage Bay. The men grow their own withies to make their lobster pots.*

the cliff-side is a drift of sea-pinks, the air full of their arid sweetness. Here are the ancient disused quarry quays and galleries of Tilly Whim, Dancing Ledge and Winspit. If you walk from Ballard Point to Corfe over Nine Barrow Down and Brenscombe Hill you will find if you're lucky bee-orchids on the path at your feet. On one side of you will be the vale of Swanage, on the other Poole Harbour, Purbeck's eastern boundary, at full-tide glistening blue up to Wareham.

I have never felt happy in Corfe, preferring always to look at it from the surrounding hills. Its dark and tragic history of murders, siege and destruction are gloomy enough and in its one-time dungeons many state prisoners were tortured and starved to death. Did the villagers when they rolled down stones from the ruins to build their cottages feel this too, that something brooding and sinister had gone out of their lives when it was destroyed leaving only its decaying core hanging on the hill-top. From Kingston you get the best view of it, silhouetted at high-tide against the brilliant blue of Poole Estuary it looks like a curious bead on a necklace of hills. Castle Hill appears to be man-made but this is not so. The ground being higher inside the hills two streams created it by forcing their way round through the chalk downs to the lower heath ground beyond to find outlet in Poole Estuary.

A path from Kingston to Kimmeridge through Encombe woods will bring you suddenly upon Swyre Head. From here the rest of the Purbeck coast-line is visible guarded in the distance by Portland Bill. You will not see a Danish invader bearing down on the coast but you may see a British man-of-war sloping off into the horizon.

Lobsters and crabs are the fisherman's quarry here. They grow their own withies to make their pots and around Easter you will see them down by their huts twisting the red stems this way and that with an eye to their summer trade.

Lobster-pots and stones seem to be the particular trade-mark of Purbeck so it is not whimsy alone that has made my door-stop a tide-rounded Purbeck stone in an old lobster-pot.

*Purbeck quarrymen are fully conscious of the dignity of their ancient trade. The Purbeck quarries supplied the stone for the Tower of London and Windsor Castle. Many of the workers possess traditional rights granted to their families centuries ago.*







Left:—The caves which are now the resort of holiday makers were once mined for the famous Purbeck building stone. They also served their turn as smugglers' caves in the eighteenth century.

UKIO

Right:—The Tilly Whim caves are famous alike for their vast extent and eerie legends of smugglers who were specially active in the remote and secret fastnesses of Purbeck.

UKIO

Below, left:—The main part of Godlingstone House is fourteenth century, but the round tower is Saxon and was used for storing grain to enable the coastal defenders to withstand the sieges of Danish pirates.

Below:—The site of Corfe Castle has always been a stronghold of defence against invaders since earliest times.

UKIO

Below, right:—The castle was reduced to ruins by Cromwell's soldiers after it had been most gallantly defended for the King during a six weeks siege, by Lady Banks, her maidservants and a few retainers.

UKIO





*Bernier's cairn atop Mount Royal George V, looking south, with Adams Sound in the middleground and Admiralty Inlet in the background. The cairn is made of angular sandstone rubble resulting from the disintegration of rock layers by frost action. Arctic Bay is below the ridge to the right.*

## **“Symbol of Sovereignty”**

by W. T. LARMOUR

Northern Affairs photographs — W. T. Larmour

**D**URING his expeditions for the Canadian Government in the first decades of this century, Captain Joseph Elzear Bernier of Levis, Quebec, built cairns, as he said “all over the Arctic”.

With many a flourish of the Union Jack, and a good deal of helpful publicity, he claimed the lands of the cairns for Canada. The cairns became symbols of her sovereignty. One of them at least has a particular hold on the imagination.

This was the fine cairn which Bernier raised atop Mount Royal George the Fifth at Arctic Bay, in north Baffin Island, after wintering there in the C.G.S. *Arctic* in 1911. The interest of this cairn lies partly in its unique position and the splendour of its surroundings and also in its contents, which include a letter of some significance, written by Bernier himself, which is here reproduced:—

ARCTIC BAY Ist. JULY 1911.

TO WHOM IT MAY CONCERN.

This is to certify that this mountain has been called on this day "ROYAL GEORGE" (5th) in honour of our King who gave us a Royal send off on our last trip; and the surrounding Mountains in this neighbour "CORONATION MOUNTAIN" in honour of our King who was crowned during the month of MAY last.

Given under my hands on board the  
U.S.S. "ARCTIC" this day the FIRST JULY, NINETEEN  
HUNDRED and ELEVEN.

ALL hands well.

GOD BLESS THE KING.

*J. R. Bernier*  
COMMANDER.

The saga of the Arctic Islands is a story quite apart from the larger theme of Canadian history. It is a sea story. Before the airmen came, sailors conquered the Arctic.

Their story has been told, but Bernier, a notable clipper skipper himself, seems to recall them fondly—those hundreds of lusty men with their famous officers and even more famous little ships, who fought the Arctic ice, winning, losing—when he raises this cairn and names the place for a king who is still remembered as the Sailor Prince. Whether or not Bernier had such thoughts, the cairn is a marker of the beginning of Canada's acceptance of the Arctic inheritance which those sailors created for her, many of them with their lives' blood. The setting is superb.

Arctic Bay is surrounded by hills 900 to 2,000 feet high, except at the entrance. There the hills decline. Mount Royal George rises nearly 2,000 feet, on the northeastern side, and although the cairn itself stands on the edge of the highest cliff, overlooking the southern horizon, it is not visible from a ship's deck in Arctic Bay below. The cap of the mountain is quite remote from the shoreline and it is the long, slow, sweeping ascent which gives Mount Royal George its majestic aspect.

The final ascent from the south is difficult. There are crevasses near the cairn and spectacu-

*These stacks that form part of its crown stand between Mount Royal George and Coronation Mountain which is visible immediately beyond them. They consist of cross-bedded sandstone and their size is indicated by the man at lower right.*

lar escarpments which form a crownlike band around the mountain brow. Numerous rocky screes hang in delicate balance, seemingly eager to plunge down the mountainside upon the unwary climber.

The cairn itself is more than ten feet high, tidy and well-constructed, tier upon tier of flat, sandstone slabs. Concealed under one of these is the metal cylinder containing Bernier's letter. It lies inside two thick, hollowed pieces of oak some eight inches long, joined together by two brass screws, well carved and very shipshape. It is such a thing as only a sailor could devise.

Bernier was in the habit of leaving his own picture and biographical notes in his caches and these were with the letter in the cairn at Arctic Bay, even though he does not seem to have climbed the mountain. No wonder! An excursion to the cairn from shipside, Arctic Bay, can take a good five hours on foot and Bernier was not light of build. Nowadays, the airmen do it in twenty minutes by the helicopter which the Eastern Arctic Patrol vessel carries. But it is more interesting to walk.

The approaches to the mountain form an area of rich vegetation. Here, mosses have







*Mount Royal George V with a double crown of castellated lower Palaeozoic or late Proterozoic sedimentary strata. At the base of the mountain are remnants of ancient tidal beaches. The vegetation in the foreground is a blaze of ochre, burgundy, and other deep glowing colours burnt in the August sun.*

*Part of the double crown of Mount Royal George V. The haze over the northern Baffin Island plateau in the distance is the result of August heat causing evaporation from the muskegs at the foot of the glaciated mesa. Though valleys were cool, it was hot enough on the dry mountain top to sun-bathe.*





*The settlement of Arctic Bay with the Eastern Arctic Patrol vessel lying off-shore. Arrival of the ship is the big event of the year for residents in the Arctic. The buildings seen in the foreground house R.C.M.P. establishment, Hudson's Bay Company, and weather station personnel. Stores for the coming year, unloaded from the ship's barge, are piled on the beach.*

grown since the seas receded long ago. High above the present water level and well up towards the incline of the mountain there are rows and rows of ancient tidal beaches, made up of uniform and small eroded pebbles. Over the pebbles grows a thin film of melancholy green moss, which dries and dies in the heat of August.

Where the ascent begins on the south shoulder there is an unusual glacial moraine,

some two hundred feet high, composed of boulders, little larger than a man's head and all about the same size and shape. These are neatly piled, and the moraine is so symmetrical that it seems as if it had been created by human hands, like the Pyramid of Chephren—but a cairn for some incredible Arctic expert. It stands stark and lifeless against the mountain, a not unlikely eyrie for a pterodactyl.

In this wilderness of rock, here and there in



*On the northern face of Mount Royal George V this brooding Titan stares across Victor Bay towards the North Pole. Frost, sun, and wind have slowly carved these rugged features and may one day destroy them.*

small, sheltered hollows, there are always to be found clusters of red mosses, graceful gatherings of the lemon-coloured arctic poppy, nodding their heads, as if in animated chatter, when the howling arctic winds become, as they do in summer sometimes, gentle and pleasant breezes.

From the crest of the mountain, where the cairn stands, the panorama on a fair day is magnificent, and it is exciting to see in reality the contours and coasts that one has traced out painfully in early geography lessons. Admiralty Inlet, Strathcona Sound, Coronation Mountain, Franklin District lie below one, shimmering in the reflected sunlight.

In this lonely world the silence transcends the wind and is broken only by the occasional cloud of snow birds that whirrs past, or by the faint chittering of lowly lemmings

lurking in the mosses, the rare signs of life.

There is a curious tenseness lying over the land as if it were waiting, and on a warm, arctic August afternoon, there is a sense of emergent life in the atmosphere such as we feel in the south just before the spring. It is as if the Arctic, remembering its last autumn before the ice came to stay, waits expectantly for life's full return.

Such is the place called Royal George, a place of many colours where, when the sun declines in the late evening of the long summer days, it emblazons the red rocks of the hazy mesa with crimson glory. From that place all the cities of our land, from Victoria to St. John's, lie southerly and Captain Bernier's cairn stands lonely sentinel for them, a memorial for dead sailors and a symbol of sovereignty in the Canadian Arctic.



# Charles Camsell

by F. J. ALCOCK

National Museum of Canada photographs.

**A**T A RECENT meeting of its Board of Directors the Canadian Geographical Society paid a unique tribute to one of its Honorary Presidents and most distinguished Fellows by making him an Honorary Life Member. This calls attention once again to the long and invaluable service to Canada of the well-known explorer, geologist, mining authority, and administrator, Dr. Charles Camsell.

Camsell was born in 1876 at Fort Liard in the Northwest Territories near the border of both the Yukon and British Columbia, the son of Captain Julian S. Camsell of the Hudson's Bay Company. When the latter became Chief Factor of the Mackenzie River district in 1882, the family moved to Fort Simpson at the mouth of the Liard. From here, at the age of eight, Charles was sent to attend school at Winnipeg, a journey which took three months and involved travel by York boat, ox-cart, river steamboat, and wagon. He studied at St. John's College, and the University of Manitoba, graduating from the latter in Arts in 1894, at the age of eighteen. He had excelled in both class work and in sports, winning a University scholarship in his freshman year and later becoming captain of the University soccer team and vice-captain of the rugby team.

The next six years were ones of adventure and exploration in the basin of the Mackenzie and west to the Pacific. One memorable trip was in 1897 when as a member of a party of four he nearly starved in an attempt to reach the Klondike gold field by way of the very difficult Liard River route. On another occasion he worked in the Cassiar placers but with such poor success that for a time he took the more certain employment of mail carrier between Wrangell and Telegraph Creek. Still another venture was a 700-mile canoe trip to Great Slave Lake in 1900 in search of gold. This, too, was unsuccessful but at Fort Providence, near the west end of that lake, he fell in with J. Mackintosh Bell who was undertaking an

exploration northward for the Geological Survey. Bell persuaded Camsell to join him and this was the beginning of an association and friendship which was to have such an important influence on his whole after life.

One stormy evening in August the party camped in a bay on the southeast shore of Great Bear Lake. Bell noticed the presence of mineral stain including cobalt bloom and duly recorded the occurrence. His report passed unnoticed until 1929 when a Cobalt prospector decided to investigate the locality as a possible source of silver and discovered the more valuable mineral, pitchblende, the source of radium and uranium, of such great importance today. The party earlier in the summer had visited Coppermine River. The desertion of the Indian guide with the only rifle in the party left Bell and Camsell in very dire straits and it was only the latter's experience of living and travelling in the north that enabled them finally to reach civilization.

Determined now on a geological career, Camsell took graduate studies in that subject at Queen's and Harvard, and later, in 1908, at the Massachusetts Institute of Technology, carrying out field work in the summer months. In 1901 he made geological investigations in the Moose River Basin of northern Ontario and in the following year he explored the wood buffalo country lying between the Peace River and Great Slave Lake; in 1903 he served as geologist with the Canadian Northern Railway Company. In 1904 he joined the staff of the Geological Survey under Dr. Robert Bell. His first assignment in this connection was the exploration of the Severn River flowing into Hudson Bay. In the following year he was back once again in the Territories exploring the Stewart and Peel Rivers crossing from Dawson in the Yukon to the mouth of the Mackenzie.

For the next eight years Camsell's field of investigation was southwestern British Columbia where he carried out detailed mapping of a number of important mining areas and the



*Dr. Charles Camsell,  
C.M.G., LL.D., F.R.S.C.,  
F.R.G.S., F.G.S.A., at  
his desk in 1944 when  
he was Deputy Minister  
of Mines and Resources.*

study of their mineral deposits. His reports on the Hedley Mining District and the Tulameen District are most important memoirs in the Geological Survey series.

In 1914 Camsell once more returned to the Northwest Territories leading a group of four Geological Survey parties into the region north of Lake Athabasca. Two of these parties were to map the topography and the geology respectively of the north shore of that lake while he himself was to explore a hitherto unknown route by way of the Tazin and Taltson rivers to Great Slave Lake. A biological sub-party accompanied him to report on the fauna and flora. At that time the regular route to Lake Athabasca was by way of Athabasca Landing and down the Athabasca River by scow. Each year several hundred scows carried the freight for the whole Athabasca-Mackenzie region down this route. The most difficult part of the journey was a stretch of water about ninety miles in length marked by numerous rapids, the most difficult of which is the Grand. Here, in a distance of three-quarters of a mile, the river falls 60 feet. An island divides the river into two channels, and scows were run light down the right-hand channel, while the cargoes were portaged over the island on a

primitive railway on flat cars. It was an interesting experience for the members of the Survey parties. It was also the last year that this was used as the regular route to the Lake Athabasca-Mackenzie River region. The following year the railway reached the Peace River on which steamers can be used and, in 1921, another line from Edmonton reached Fort McMurray on the Athabasca below all the rapids. Since then train and river steamer and the aeroplane have revolutionized travel in this region. Camsell's exploration provided the first information about a vast area that hitherto had been a blank on the map. In the fall the parties assembled at Fort Chipewyan and found their way up to Athabasca Landing with help from power boats above and below the rapids and by tracking their scow through these.

In 1918 Camsell opened up a branch office of the Geological Survey in Vancouver which proved of such assistance to the mining development of that province that it has been continued and enlarged. In 1920 he accepted a much greater responsibility — the direction, as Deputy Minister, of the Federal Department of Mines at Ottawa, which later became the Department of Mines and Resources, a position

*Dr. Camsell (left) at camp in the Tazin River country, Northwest Territories, in 1914.*

he occupied with distinction until he retired in 1946. As one of his duties, he acted as Commissioner of the Northwest Territories, with direct responsibility for the administration of that part of Canada in which he was very particularly interested. As Chairman of the Dominion Fuel Board, he had also direct concern for one of Canada's great mineral industries. He was also Commissioner of the Federal District Commission, a member of the National Research Council, and numerous other Boards. On a number of occasions he represented Canada at international conferences abroad.

He is a member of, and has been honoured by, many societies: a Fellow and Past-President, Royal Society of Canada; hon. member and Past-President, Canadian Institute of Mining and Metallurgy; Fellow and former Vice-President, Geological Society of America; hon. member and former Director of the American Institute of Mining and Metallurgical Engineers; Fellow of the Royal Geographical Society; President of The Canadian Geographical Society, 1929 to 1941. He was awarded the Murchison grant by the Royal Geographical Society in 1922 for his explorations in northern Canada and the Founders' Medal in 1947. The Institute of Mining and Metallurgy honoured him with its gold medal in 1930 and the Professional Institute of the Civil Service of Canada with its gold medal in 1946. Three Canadian universities have each conferred on him the degree of LL.D., Queen's in 1922, Alberta in 1929, and Manitoba in 1936, and in 1935, His Majesty, King George V made him a



Companion of the Order of St. Michael and St. George, a tribute which Dr. Camsell regarded as one to the mining profession and to the part played by geology in the development of Canada.

Now, though officially retired, Dr. Camsell still takes an active interest in mining developments, both at home and abroad, and particularly in northern Canada where, during his lifetime, so many changes and such progress have taken place. His many friends look forward to the time when he will make available in book form his interesting reminiscences of his full and varied life.

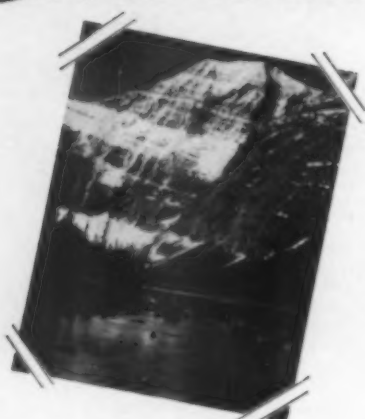
*The Camsell party ascending the Athabasca River in October 1914 when Dr. Camsell led a group of Geological Survey parties in the Northwest Territories.*







## It's ALBERTA In AUTUMN



Any time is fun time for the vacationer in Alberta but September is a month you will never forget. With the peak of the visitor season past, traffic is lighter and you can enjoy the unspoiled beauty of the Canadian Rockies to the full.

Foliage a riot of colour . . . Indian summer days and cool nights . . . good roads and excellent hotel and motel accommodation . . . these are but a few of the reasons why you will enjoy a September in Alberta . . . after the rush is over.

*There's More of Everything  
For Everybody in -*

### ALBERTA



For free booklet and map send this ad along with your name, address and age to the Alberta Travel Bureau, Legislative Bldg., Edmonton, Canada.



CANADA —  
VACATIONS UNLIMITED

GJ-7

### EDITOR'S NOTE-BOOK Contributors

Lyn and Richard Harrington (*The Stikine River*) are constantly finding new and delightful Canadian scenes which they picture and describe for our readers with their usual well-known skill. — Marius Barbeau (*How the Folk Songs of French Canada were Discovered*) is widely recognized as one of our greatest authorities on ethnology and folklore. He has now retired from the staff of the National Museum, to which he was appointed in 1911, and devotes his leisure to further researches and publications on Indian folklore. — J. A. Warburton, P. Eng., (*Building a Business from the Air*) graduated from McGill University. Born in Prince Edward Island, his work as a consulting mining engineer has taken him all over Canada and to Spain, where he spent some years. After war service in the Army, Col. Warburton served in the Bureau of Technical Personnel of the Department of Labour, leaving to join Spartan Air Services in 1950. — Dim Pares (*Magic of Purbeck*) formerly worked for the British Movietone News. Her husband, Major Barrow was killed in Normandy during the war, and she is now a free lance writer. — William T. Larmour (*Symbol of Sovereignty*) served in the Navy during the war and is now on the research staff of the Department of Northern Affairs. He has just been appointed leader of a group to investigate the possibilities of farm animal life in the arctic regions. — F. J. Alcock (*Charles Camsell*) is a geologist and mineralogist of distinction. In 1947 he was appointed to his present position of Chief Curator of the National Museum of Canada.

\* \* \*

### The Congress of Italian Geographers

The year 1954 marks the 500th anniversary of the great Venetian explorer Marco Polo, the first man to draw aside the veil that had obscured central Asia and the lands of the Great Khan. It was very fitting, therefore, that Italian geographers should hold their 16th congress last April in the cities of Venice and its

neighbour Padua. The formal sessions attended by over 300 delegates from every part of Italy, lasted six days and dealt with such varied topics as the regimes of Alpine glaciers, land reclamation and settlement, and Italian fisheries. Special exhibitions of ancient maps and prints had been organized for the occasion: one exhibit illustrated the travels of Marco Polo, another the growth of Venice from the tiny fishing settlement of A.D. 1000 on what was virtually swamp land, to the flourishing city of A.D. 1600 with its splendid canals and stately palaces. For many people, however, the highlights of the congress were its excursions, which most happily blended geography with the history that surrounds one everywhere in Italy. One excursion took the delegates to the Euganei Hills south of Padua, where a volcanic intrusion into overlying limestones during the late mesozoic has created a thermal region, and also produced striking changes in vegetation. On one hill stands the old home and garden of the poet Petrarch, now a national monument from which one may look over the plain towards distant Venice.

Another excursion, first in buses then in ex-wartime landing-craft, carried the delegates over an extensive area of former marsh-land, 50 miles north of Venice, that has now been largely reclaimed by the industrialist Count Marzotto and converted into a self-supporting farm and industrial centre, where the summer field labourers become the winter factory hands and so avoid seasonal unemployment. In still a third excursion the delegates studied the formation of the Venetian lagoons from the deck of a chartered steamer; but they forgot their geographical preoccupations in a visit to Torcello's mediaeval churches, and in the wayside exchange of tawdry paper bills for choice samples of Venetian lace.

Apart from the writer of this notice, who attended as an honorary member of the Italian Geographical Society, the only other foreigner at the congress was Dr. Fritz Bartz, Professor of Geography in the University of Bonn, Germany, who is an expert on world fisheries.

Before the sessions closed plans were laid for a 17th congress three years hence, to be held either in Sardinia, or in some city of southern Italy. May it be as successful as the 16th.

DIAMOND JENNESS

\* \* \*

#### AMONGST THE NEW BOOKS

##### Economic Geography

by Clarence F. Jones and  
G. G. Darkenwald

(The Macmillan Co., New York,  
Revised Edition, 1954  
612 pages, \$6.75)

Courses in economic geography are among the most popular college and university courses in North America. Perhaps the interest in this particular kind of systematic geography was the result of our concern with the vast natural resources of the continent which were to be tapped in the first half of the century. The value of economic geography to students lies in its approach to the problems of distribution and movement of all natural resources, and study is not limited to any single product as are some specialties. This broad reading teaches the student to consider many factors at once and to balance one set of conditions for development against other variables. And if the study is properly taught, the student sees that economic geography is but a part of the larger field of human geography, because behind all of the products and trade are people.

Because economic geography is a useful course for general arts, commerce and business students, there have been many texts written for North American colleges, and competition is quite keen among them. One of the best of the pre-war texts was that of Jones and Darkenwald, and many professors now in American and Canadian universities had their introduction to this subject with this text. It is, therefore, a pleasure to see that this valuable book is not to be forgotten, but has been rewritten and revised for a new generation of students.

The approach of Jones and Darkenwald is occupational and, therefore, differs from some of the other economic geographies which deal with the world mainly by climatic region. In this approach, which stresses people as well as products, the authors describe economic activity under the headings of occupations of hunting, fishing, forestry, grazing, agriculture, mining and manufacturing. The occupation of agriculture is further subdivided into subsistence, plantation,

fibre culture, and several types of mid-latitude farming such as grain and dairy. The manufacturing occupations are discussed topically such as iron and steel, textiles, chemicals, etc. A final section deals with transportation facilities and trade, but the theme of movement runs through the whole book, as it should for a dynamic subject such as economic geography.

In their introductory chapter discussing the field of economic geography, Jones and Darkenwald repeat their definition of the subject in one of the best (although somewhat long) definitions that this reviewer has seen. If considered carefully and analysed, the following statement well defines the purpose of economic geography — "it is the study of the relation of the physical factors of the environment and of economic conditions to the productive occupations and the distribution of their output."

J. LEWIS ROBINSON

\* \* \*

##### Geography of Latin America

by Fred A. Carlson

(Prentice-Hall, New York. Third  
Edition, Revised 1952, \$6.75)

American geographers have been writing a growing list of continental geographies which are aimed at college classes where regional geography is often taught on a continental basis. There are usually two or three standard texts which compete with one another for the university market, and which are, in addition, used in most reference libraries. One of these standard texts has been Carlson's *Geography of Latin America*. The present edition is a revision of the 1943 second edition, and includes new information which had been gathered during World War II, and has new statistics which illustrate post-war production trends. That the book is well written and organized is demonstrated by the fact that various editions have been widely used in American colleges for about twenty years. To teachers who are not familiar with this text, and for business men who want to know something about the potential market of the land and people to the southward, it may be well to summarize the kind of information which is contained in the book.

The first introductory chapters deal with the cultural heritage, stressing the Indian, Negro and white origins and the mixtures of the peoples of Latin America. Their political evolution is also described, showing how

(Continued on page VII)

Long a  
"BEST SELLER"!



Because

- ... it tells every reader his own story!
- ... it's been absorbing reading for Canadians from coast to coast for generations!
- ... it's the savings passbook of Canada's First Bank!



BANK OF  
MONTREAL

Canada's First Bank

working with Canadians in every walk of life  
since 1817



## Serving Canadian Advertisers Since 1873



RAPID GRIP AND

**Batten**

LIMITED

FROM COAST TO COAST

HEAD OFFICE 300 BAY STREET  
TORONTO

## For Your Son's Education ASHBURY COLLEGE

Founded 1891

IN CANADA'S CAPITAL

A Residential and Day School for Boys  
Grades II - XIII

- High academic standards. Boys prepared for University.
- Limited classes ensure individual attention.
- An exceptionally well located School providing facilities for all sports, opportunity for cultural experiences and an interesting residential life.

Autumn Term begins September 8th, 1954



Write to:

R. H. Perry, M.A.,  
Headmaster

ASHBURY COLLEGE  
Rockcliffe Park, Ottawa 2,  
Ontario, Canada.

(Continued from page VI)

the present states have grown from colonial status to various stages of political maturity and stability. On the whole, most of the "common people" still take little part in the countries' political development.

After this introduction, the author then describes the physical, economic and human geography of each of the political divisions of Latin America. Those of South America are covered first, with the largest countries, Brazil and the Argentine, getting four and three chapters respectively, and one chapter going to each other country. This type of treatment necessarily gives only a small section to physical geography, to save repetition, and stresses the resources and internal development of each country. The next section deals with Mexico, the Central American Republics, and the islands of the West Indies. In each case, Carlson describes briefly the physical environment, and shows how the clustered population distribution is related to that natural setting. He then shows how some of the resources of that environment support the local population, and

how a few particular products, such as coffee or bananas, dominate the export trade of the countries.

A final section is concerned with Inter-American transport, emphasizing how the lack of land transport has prevented the interchange of products and ideas in Latin America and has helped to keep population near (but not necessarily on) the coast of South America. Another section on commercial relations stresses the importance of Latin America as a source of raw materials for Europe and Anglo-America. The market for the latter's industrial products, however, is partly limited by the present low purchasing power of the bulk of Latin American population.

The appendices have a key for pronouncing Spanish and Portuguese place names; area and population statistics; and selected references and sources of additional information. All in all, *Geography of Latin America* can be classed as a good and sound geography text. This reviewer's only criticism is of the rather poor quality of picture reproduction, which is not up to the standard of most texts.

J. LEWIS ROBINSON

### Application for Membership in the

### CANADIAN GEOGRAPHICAL SOCIETY

To: The Canadian Geographical Society,  
54 Park Ave.,  
Ottawa, Canada.

1954

Please Print

Name .....

Address .....

Name .....

Address .....

Annual membership dues, which are \$4.00 per annum in all parts of the world, include subscription to *Canadian Geographical Journal*.



• PRINTING

• LITHOGRAPHY

• CREATIVE DESIGN

• PHOTO-ENGRAVING

**Gazette**  
PRINTING COMPANY  
LIMITED

MONTREAL'S FIRST PRINTER

Established in 1776

UN. 6-3561

1000 St. Antoine St., Montreal.



### Temples of the Sun and Moon

by Michael Swan

(Clarke, Irwin, Toronto, \$4.25)

For one only casually interested in Mexico this book makes good reading; the author has a wide range of interests, including amateur archaeology, and presents a pleasing picture of the country and the Mexicans.

For those whose point of view is more technical, *Temples of the Sun and Moon* proves a disappointment and the professional archaeologist will detect a good many slips. The worst of these is perhaps the cock-and-bull story about the "saga of misfortune" befalling everybody who has owned the original of the Mendoza Codex. Apparently this yarn is patterned on the similar tale about Tutankhamen's tomb, and is equally untrue. The Codex never was the property of Major Cooper Clark, but is one of the most valued possessions of the Bodleian Library in Oxford, and there was nothing mysterious about Cooper Clark's death, for he died peacefully in Scotland.

The good writing and excellent photographs result in a better book than this review might suggest, for the lay reader at any rate.

DOUGLAS LEECHMAN

### Canadian Regions

#### A Geography of Canada

By Donald F. Putnam (Editor),  
Benoit Brouillette, Donald P. Kerr  
and J. Lewis Robinson.

(J. M. Dent and Sons (Canada)  
Ltd., Toronto, \$9.00)

This is the first major geographical work to be written by native Canadians, two of whom, Professors Putnam and Kerr, are also exclusively Canadian trained. This alone marks a milestone in the development of the discipline of geography in this country.

Fundamentally, the major regions are political regions, although Ontario is divided into a north and a south. This was done, perhaps in order to appeal to as many people as possible, rather than to geographers alone. However, the major regions are subdivided for detailed description. Many of these subdivisions are called geographical regions, and are a contribution to the clearer understanding of the Canadian landscape. The authors have obviously made earnest and sincere efforts to include something of everything that enters into geography. Yet, perhaps be-

(Continued on page IX)

CANADIANA

•  
ARCTICA  
•

Out of Print  
& Rare Books

Scientific Books  
and Periodicals

*Catalogues on request*

BERNARD AMTMANN

1215 GREENE AVENUE  
MONTREAL, CANADA

(Continued from page VIII)

cause of this, the result tends to be encyclopaedic and, at times, is reminiscent of the *Canada Year Book*. Table 31, for example, gives the Total Number of Housing Units completed in Canada, 1945-49, while the table which follows it gives the Gross and Net Value of Production by Regions (sic) and Provinces, 1947. The inclusion of such data is all the more puzzling as the important matter of an overall survey of human geography and population, is relegated to a few pages in the concluding chapter.

There is, however, a sketch of the political development of Canada in the opening chapter (in spite of its title—"The Physical Background"). Perhaps because of its brevity, this section can be misleading. For example, on the map entitled "Political Development", 1905 is given as the "date of inclusion in the Dominion of Canada" of Saskatchewan. While this is the date when the Province of Saskatchewan was created as a political entity, the area it covers was part of Canada long before 1905. The same map shows inaccurately the southern boundary of the District of Franklin, while the caption beneath the figure stating that "Canada reached its most northerly extent in 1880, when given jurisdiction as far as the North Pole" is impossible to substantiate factually.

The book is profusely illustrated with no fewer than 345 maps and diagrams and 114 photographs. But, unfortunately, the quality of the maps is extremely variable. Some are beautifully drawn and reproduced (Fig. 76); others are crude and confusing (Fig. 70); and still others lack a clear legend (Fig. 83). If maps are the language of the geographer, then they can seldom be accused of verbosity, but in this case fewer, but better maps, might have been an improvement.

However, while there may be debate as to whether *Canadian Regions* is a "monsterpiece" or masterpiece, there can be no doubt that it is "the most comprehensive and up-to-date textbook on Canada" and is likely to become the most-thumbed one.

NORMAN L. NICHOLSON

## American Beginnings

by Jarvis M. Morse

(Public Affairs Press,  
Washington, D.C., \$3.75)

The purpose of this book is very clearly set forth by the author. He says that he has simply undertaken to lead interested readers on a personally conducted tour of noteworthy writings on British America published before 1775. The tour certainly is an admirable one and sets before us the first accounts of what the white intruders found and saw in the new continent. The fact that many of them wrote as mere witnesses devoid alike of literary intent or ability adds to the naive charm and authenticity of their statements.

The origin of most nations is lost too far back in the remote past for one to be able to observe the processes of national development and integration of the scattered beginnings. But in the United States one can follow step by step the upward and unifying trend, often very crudely recorded but none the less sincere, and such inaccuracies as appear usually arise from lack of perspective. The writings of the early geographers are set out with all the usefulness of a careful bibliography and all the charm of a romance which is perfectly true. The earliest narrators were Spanish or French and the translations of their works fired the imaginations of the British, who swiftly put thought into action, and that action produced what the author describes as "a bumper crop of contemporary literature". Most of the early explorers, notably Francis Drake, Captain John Smith, and Samuel de Champlain, did their best to commit to paper a straightforward account of their doings; they were not men of letters, but their records are surprisingly accurate. The first really great scholar who undertook a serious collection of historical and geographical accounts of the New World was Richard Hakluyt whose monumental work is the basis of early American history. When he died in 1616, his work was ably carried on by Samuel Purchas, whom the author describes as "a

giant of industry and the soul of reliability".

The chapters devoted to Bermuda, the West Indies and the wars and insurrections that fretted their history are peculiarly interesting. The Indians, the Salem witches, the great Puritans, and the provincial chronicals are all dealt with in turn to show their influence in building up the enormous framework on which the present structure of the United States now rests. Each chapter has a most precise bibliography attached which makes the book of supreme value to the student, while the general reader will find rich and varied food for thought concerning those early steps by which America rose to nationhood.

S. SEELEY



THE NEW BOXING ring recently installed in Madison Square Garden can be knocked down almost as fast as some fighters we could name. This is important to the Garden, with its quick-change schedule of sports events, from boxing to basketball to hockey and back to boxing again. Made of lightweight aluminum, this ring promises to be more than a match for the toughest heavyweight.

Aluminum is constantly making news in our own sports world. Anglers, yachtsmen and other strenuous types go for the light, strong, non-rusting equipment made by Canadian manufacturers from Canadian aluminum. Aluminum Company of Canada, Ltd. (Alcan).



### **Lemoyne d'Iberville**

Soldier of New France

by *Nellis M. Crouse*

(Ryerson Press, Toronto, \$5.00)

This book is a careful study of one of the greatest of French pioneers who, as sailor, colonist, and statesman took part in the early struggles between the British and the French for supremacy in North American trade. His success as a soldier made him one of the most dangerous enemies that the Hudson's Bay Company had to contend with and in 1696 he captured nearly all the British settlements in Newfoundland. After planting the fleur-de-lys so successfully in the northern part of the American continent he then set off to explore the valley of the Mississippi. He was appointed governor of the French colony of Louisiana but did not live to enjoy that dignity, or to fulfil his cherished ambition of driving the English out of North America. He died aboard his flagship in 1706 while leading a naval attack against the British in the West Indies. So picturesque a career should have provided material for a more dramatic story, but history has done much to obliterate the results of his work and one feels that in spite of his energy and fiery patriotism the embers have somehow ceased to glow. S. SEELEY

\* \* \*

### **The Golden Honeycomb**

by *Vincent Cronin*

(Clarke, Irwin, Toronto, \$3.35)

This book constitutes a finely woven portrait of the island of Sicily. It is classical in tone, bordering between history and geography, and sometimes just missing the *terra firma* of either realm. But the pure gold thread of mythology, on which the book is strung, never fails; it holds the reader's interest not as a story but as a strong enchantment. This golden thread is the legend of Daedalus, "the first artist who ever lived, if not in the flesh, at least in the minds of men," and Plato tells us that his works were tinged with divinity. Tradition added that his statues were so lifelike that they had to be chained to keep them from running away. The Sicilian historian, Diodorus, who lived in the first century B.C. some thirteen hundred

years after the time of Daedalus, tells us that when that great craftsman fled from Crete to Sicily, to escape from the wrath of King Minos, he fashioned a honeycomb of pure gold as a thank offering at the shrine of Aphrodite on the rocky summit of Erice. It was customary throughout the millenia before the Christian era for refugees to make rich offerings to the gods who protected them. Ritual jars in the shape of a honeycomb have been found in Crete, whence Daedalus fled, or perhaps flew, according to Ovid, on wings of his own fashioning. Even Herodotus confirms the escape of Daedalus from Crete.

The author's theme is that this golden honeycomb still exists. He maintains that "beauty has a strong and stubborn tendency to survive". Archaeology has constantly proved how true this is in the case of wrought gold. So he sets forth to look for it, knowing that the quest will be fully worth while, whatever the outcome. With this single purpose in view the author takes us first to the mediaeval village of Erice, whose precipitous rocks are now crowned with the ruins of a Saracen castle, on the site of that shrine where the golden honeycomb was first offered to Aphrodite, or more probably, Astarte. Only a few fragments of its masonry remain, and the bare rock offers no hiding place for a golden honeycomb. The author wanders on around the island unfolding to us its rich secrets of the past, ever on the alert, and noting how the Cretan symbolism of bees and the gift of honey has been absorbed into Sicilian lore and tradition. Despite the story of many priceless treasures which have built up the heritage of Sicily, one feels a pang of regret on the last page of the book that the splendour of the golden honeycomb is still veiled from our eyes.

S. SEELEY

\* \* \*

### **Rae's Arctic Correspondence**

1844-55

Edited by *E. E. Rich*

and *A. M. Johnson*

(Hudson's Bay Record Society,  
London, 1953)

This, the sixteenth volume published by the Hudson's Bay Record Society, strikes a new note for the

series, emphasizing the important part the Hudson's Bay Company has played in furthering Arctic exploration and the development of what is rapidly becoming a most vital part of Canada. The volume consists in the main of Dr. John Rae's correspondence with various officials of the Company on the subject of his expeditions to the north, but omits other letters on such subjects as the fur trade and events at the posts he occupied when not engaged in polar research. Answers to some of these letters and other documents make up an appendix of forty-six pages and another appendix gives biographical sketches of many of the people mentioned in the main body of the book.

Not the least important section is the scholarly introduction, nearly a hundred pages in length, by Drs. J. M. Wordie and R. J. Cyriax. It provides the best account of Rae's life and work that has yet appeared, demonstrating clearly his unexampled ability as an explorer and traveller and the value of his investigations.

Rae's correspondence has been most ably edited by Professor E. E.

(Continued on page XI)



MORE FINE  
CANADIAN PRINTING  
APPEARS ON

## **Provincial Papers**

THAN ON ANY  
OTHER KIND...

**Provincial Paper Limited**  
TORONTO, MONTREAL, WINNIPEG



A  
Prideworthy Book

## IMAGE OF CANADA

Selected photographs from  
this Journal synthesized into  
a picture of the Canadian  
scene, resources, and people

\$5.50

from your bookseller, or

THE  
CANADIAN GEOGRAPHICAL  
SOCIETY

54 PARK AVENUE, OTTAWA 4

or

THE RYERSON PRESS  
TORONTO



## EUROPEAN and STERLING AREA READERS

Receive the

CANADIAN  
GEOGRAPHICAL JOURNAL

by post every month

Information about membership  
on request from the European  
Representative of The Canadian  
Geographical Society

W. H. CORKILL

THE MEAD, WEST DUMPTON LANE,  
RAMSGATE, ENGLAND

(Continued from page X)

Rich and Miss A. M. Johnson. It is both significant in itself and a fascinating record of one of the most spectacular periods of exploration in the Canadian Arctic. It was Rae who first advocated, and most successfully demonstrated, the method of living off the country, as the natives do, rather than attempting to carry along all the comforts and impedimenta of our western culture. He had little but scorn for those who preferred any other method to his and was not slow to express his opinion of them. The frontispiece, that magnificent portrait by Stephen Pearce, gives some idea of the type of man he must have been. As a traveller, he was almost fabulous, but his letters make things seem so simple and commonplace that one is apt to lose sight of the magnitude of his accomplishments.

The tragedy of his being unaware that he stood but a scant fifty miles from his goal, the site of the Franklin disaster, when he reached Cape Alfred at the eastern extremity of Victoria Land in September 1851, is one of the highlights of the record. The book is beautifully printed and makes a worthy companion for its predecessors. DOUGLAS LEECHMAN

\* \* \*

### Four Guineas

A Journey through West Africa  
by *Elspeth Huxley*

(Clarke, Irwin, Toronto. \$4.50)

Mrs. Huxley has certainly done much to shed light in dark places and the account of her travels makes manifest the process of Africanization as it evolves throughout Gambia, Sierra Leone, the Gold Coast, and Nigeria. She writes with a wonderfully impartial and detached viewpoint which adds to the value of her observations. The growth of Nationalism, as we understand it, does not usually have to contend with the exceptional difficulties which the West African climate imposes on its people. The native soil will not produce the type of food needed to keep up the stamina of its people and give them the will to overcome their natural handicaps. Superstition, witchcraft, taboos, and fetishes of the

cruellest kind seem to provide an easier path; and a high mortality rate does not trouble those who manage to survive. The patient efforts made by the British authorities to help the native people learn the art of self-government are often impeded by a difference of standards on the most elementary points of justice. Bribery may be a criminal offence among Europeans, but it is merely a point of courtesy among the West Africans, and flagrant dishonesty which might merit a prison term among white people, appears as plain common sense.

Mrs. Huxley gives us very clear and sharp impressions of the country she has travelled through, and graphic descriptions of some natives who now hold official positions, but it is not her purpose to suggest solutions for the problems of local government reform, or the poverty of agricultural conditions, with its many reactions on employment conditions. The answers to these questions must now be found by the Africans themselves.

S. SEELEY

\* \* \*

### Map Collections in the United States and Canada

by *Marie Cleckner Goodman*  
(Special Libraries Association,  
New York, \$3.00)

This is a most useful compilation comprising four hundred and ninety-seven of the most important map collections in the United States and thirty map collections in Canada. The value of having such a list carefully put together in one small volume will be obvious to all teachers of geography, librarians, and research students. The information is catalogued in such manner that the searcher can find at once the name and location of the library most suited to his quest. In each case the name of the librarian is given, with the number of map sheets available and the areas covered. The listing is alphabetical by state or province and there is a map included to show the distribution of the libraries mentioned. The Chairman of the Map Resources Committee is to be congratulated on the production of such a very business-like aid to geographical research.

S. SEELEY